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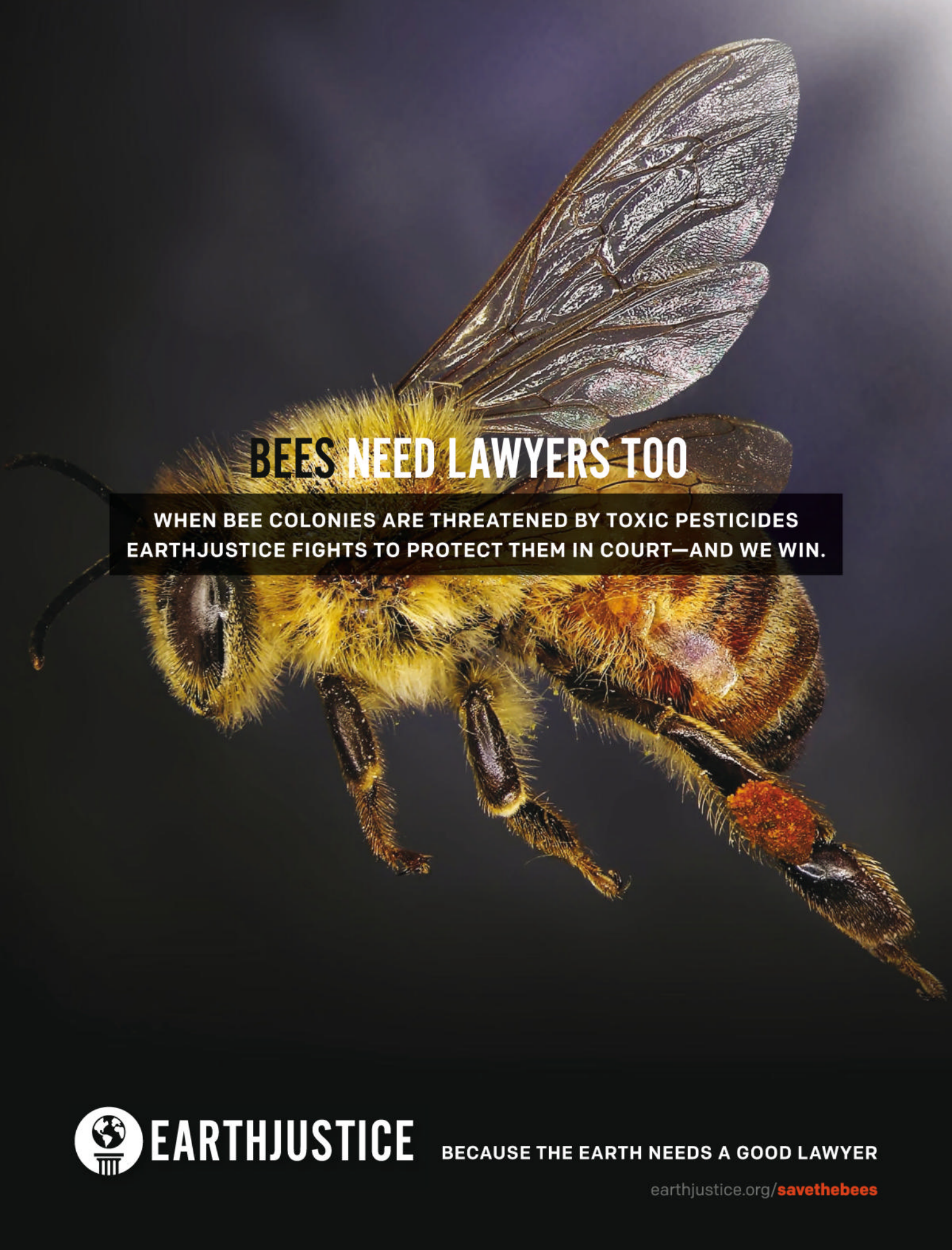
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September + October 2015

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COVER: JACQUELYN MARTIN/AP, RIVERNORTHPHOTOGRAPHY/ISTOCKPHOTO

FEATURES

22 "We're Not Crazy"
BY TIM MURPHY
Maaaybe a wild-haired socialist from Vermont won't win the presidency. But Bernie Sanders just might change politics for good.

28 How the War on Women Was Won
BY MOLLY REDDEN
Abortion clinics are closing at a rate of 1.5 a week. Welcome back to a pre-*Roe* world.

38 "Sorry, I'm Not Taking This Test"
BY KRISTINA RIZGA
The average US student takes more than 113 standardized tests before graduation. This spring, Kiana Hernandez became one of a growing number of kids saying: Enough.

44 Cuba Confidential
BY PETER KORNBLUH AND WILLIAM M. LEOGRANDE
Inside the secret, back-channel negotiations that transformed America's relationship with Cuba

50 Heart of Agave
BY TED GENOWAYS
How a renegade optometrist is defying Big Ag and saving Mexican farms—with the finest tequila you'll ever taste

Join the 9 million smart, fearless readers who make *MotherJones.com* a regular habit.

DEPARTMENTS

5 OutFront
- Officers of the fleece
- Obama's nuclear makeover
- WTF is chessboxing?
- Can GMOs end animal cruelty?
- Dark money goes digital.
- Why costly energy looks so cheap

55 Mixed Media
- Sci-fi novelist Ernie Cline on growing up geek
- Cooking while black with Toni Tipton-Martin
- Capturing Evel Knievel on film
- Meet Gene Luen Yang, a master of comics and code.
- Book, film, and music reviews

66 Food + Health
- How our AC obsession is heating the planet
- Taking King Corn to court

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Achieving Domestic Equity

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On June 26, 2015, the Supreme Court reaffirmed what many of us have long believed—the Constitution is a living, breathing document built on a foundation of equality and the pursuit of happiness. It did not take a constitutional amendment to establish marriage equality, because those concepts are embedded in our nation's founding documents.

The struggle for that important achievement was carried out over many years, from the streets, to the court rooms, to the board rooms.

We were pleased to join 379 employers and employer organizations in a friend of the court (*amicus curiae*) brief to the US Supreme Court to explain how discriminatory restrictions on the right to marry hurt business. According to the Court:

"As more than 100 amici make clear in their filings, many of the central institutions in American life—state and local governments, the military, ***large and small businesses***, labor unions, religious organizations, law enforcement, civic groups, professional organizations, and universities—have devoted substantial attention to the question. ***This has led to an enhanced understanding of the issue***—an understanding reflected in the arguments now presented for resolution as a matter of constitutional law." *Obergefell v. Hodges*, Slip Op. at 23 (*emphasis added*).

Some of the largest publicly traded corporations in the world signed that brief, demonstrating that this issue had already been settled in the mainstream business community. By 2012, the vast majority of Fortune 500 companies prohibited workplace discrimination based on sexual orientation, setting a higher standard than the law required.

That didn't happen by accident. Much of it happened, company by company, due to the hard work of investors who believe that discrimination is bad for business. Companies were persuaded through letters from their shareholders, face to face meetings and the submission of shareholder proposals that were put to a vote at company annual meetings across the country. Some of these dialogues took years to achieve success.

The **Domini Social Equity Fund** played a small part in these efforts, convincing several companies to amend their non-discrimination policies to include "sexual orientation," and voting for shareholder proposals submitted by others. A small change brought about by your mutual fund can have ripple effects throughout society.

This work helped to lay the groundwork for marriage equality by changing perceptions in the investor and business communities, strengthening the notion that an employee's sexual orientation or gender identity has nothing to do with their ability to perform on the job. We explained that corporations would benefit by greater employee loyalty and commitment. They would also gain the ability to recruit from the broadest possible pool of talent.

In the world of finance, the phrase "domestic equity" does not refer to marriage equality, it refers to the stock of American companies. But the word "equity" has a double-meaning. After all, a system that is fundamentally unfair is also not good for business in the long run.

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OUTFRONT



COPS AND ROBBERS

TO COLLECT AND SERVE

The dangers of turning police officers into revenue generators

In April, several days after North Charleston, South Carolina, police officer Michael Slager stopped Walter Scott for a busted taillight and then fatally shot him, the usual cable-news transmogrification of victim into superpredator ran into problems. The dash cam showed Scott being pulled over while traveling at a nerdy rate of speed, using his left turn signal to pull into a parking lot and having an amiable conversation with Slager until he realized he'd probably get popped for nonpayment of child support. At which point he bolted out of the car and hobbled off. Slager then shot him. Why didn't the cop just jog up and grab him? Calling what the obese 50-year-old Scott was doing "running" really stretches the bounds of literary license.

But maybe the question to ask is: Why did Scott run? The answer came when the *New York Times* revealed Scott to be a man of modest means trapped in an exhausting hamster wheel: He would get a low-paying job, make some child support payments, fall behind on them, get fined, miss a

OWEN FREEMAN

payment, get jailed for a few weeks, lose that job due to absence, and then start over at a lower-paying job. From all apparent evidence, he was a decent schlub trying to make things work in a system engineered to make his life miserable and recast his best efforts as criminal behavior.

When incidents of police violence come to light, the usual defense is that we should not tarnish all the good cops just because of "a few bad apples." No one can argue with that. But what is usually implied in that phrase is that the "bad" officers' intentions are malevolent—that they are morally corrupt and racist. And that may be true, but they are also bad in the job-performance sense. These men are crummy cops, sometimes profoundly so. Slager had a record for gratuitously using his Taser. Timothy Leohmann, who leapt from his car and instantly killed 12-year-old Tamir Rice, had been deemed "weepy" and unable to "emotionally function" by a supervisor at his previous PD job, who added: "I do not believe time, nor training, will be able to change or correct these deficiencies." Ferguson's Darren Wilson was also fired from his previous job—actually, the entire police force of Jennings, Missouri, was disbanded for being awful.

When you ask why such "bad" cops are nevertheless armed and allowed to patrol the streets, one begins to see that lurking beneath this violence is a fiscal menace: police departments forced to assist city officials in raising revenue, in many cases funding their own salaries—redirecting the very concept of keeping the peace into underwriting the budget.

We saw a glimpse of this when the Justice Department released its report on Ferguson in March. In his statement, then-Attorney General Eric Holder referenced a lady in town whose life sounded Walter Scott-like. She had received two parking tickets totaling $151. Her efforts to pay those fines fell so behind that she eventually paid out more than $500. At one point, she was jailed for nonpayment and—eight years later—still owes $541 in accrued fees.

The judge largely responsible for the extraction of these fees from Ferguson's poor, Ronald J. Brockmeyer, owed $172,646 in back taxes, a sum orders of magnitude greater than any late fine coming before his bench. Even as he was jailing black ladies for parking tickets, Brockmeyer was allegedly erasing citations for white Ferguson residents who happened to be his friends. After the report's publication, he resigned so that Ferguson could "begin its healing process."

But consider: In 2010, this collaboration between the Ferguson police and the courts generated $1.4 million in income for the city. This year, they will more than double that amount—$3.1 million—providing nearly a quarter of the city's $13 million budget, almost all of it extracted from its poorest African American citizens.

Evidence also suggests that this new form of raising revenue—policiteering?—goes far beyond Ferguson. Remember the recent Oklahoma case involving Robert Bates, a 73-year-old millionaire insurance broker with scant law enforcement background who was allowed to go out on patrol—likely because he had donated lots of money and equipment to the local sheriff's office? He killed an unarmed black suspect when he grabbed his gun instead of his Taser. In the days that followed, we learned that other deputies had long resented this guy's freelance incompetence.

"Essentially, these small towns in urban areas have municipal infrastructure that can't be supported by the tax base, and so they ticket everything in sight to keep the town functioning," said William Maurer, a lawyer with the Institute for Justice who has been studying the sudden rise in "nontraffic-related fines."

Take the St. Louis suburb of Pagedale, where, among other Norman Rockwell-worthy features deemed illegal, "you can't have a hedge more than three feet high," Maurer says. "You can't have a basketball hoop or a wading pool in front of a house. You can't have a dish antenna on the front of your house. You can't walk on the roadway if there is a sidewalk, and if there is not a sidewalk, they must walk on the left side of the roadway. They must walk on the right of the crosswalk. They can't conduct a barbecue in the front yard and can't have an alcoholic beverage within 150 feet of a barbecue. Kids cannot play in

THE NEW NUCLEAR OPTION

Could America's latest atomic weapon ignite a new arms race?

ENGINEERS at the United States' nuclear weapons lab in Albuquerque, New Mexico, have spent the past few years designing and testing the B61-12, a high-tech addition to our nation's atomic arsenal. Unlike the free-fall gravity bombs it will replace, the B61-12 is a guided nuclear bomb. A new tail kit assembly, made by Boeing, enables the bomb to hit targets far more precisely than its predecessors.

USING "Dial-a-yield" technology, the bomb's explosive force can be adjusted before launch from a high of 50,000 tons of TNT equivalent to a low of 300 tons—that's 98 percent *smaller* than the bomb dropped on Hiroshima 70 years ago.

DESPITE these innovations, the government doesn't consider the B61-12 to be a new weapon but simply an upgrade. In the past, Congress has rejected funding for similar weapons, reasoning that more accurate, less powerful bombs were more likely to be used. In 2010, the Obama administration announced that it would not make any nuclear weapons with new capabilities. The White House and Pentagon insist that the B61-12 won't violate that pledge.

THE B61-12 could be deployed by the new generation of F-35 fighter jets, a prospect that worries Hans Kristensen, a nuclear weapons expert at the Federation of American Scientists. "If the Russians put out a guided nuclear bomb on a stealthy fighter that could sneak through air defenses, would that add to the perception here that they were lowering the threshold for the use of nuclear weapons?" he asks. "Absolutely."

SO FAR, most of the criticism of B61-12 has focused on its price tag. Once full production commences in 2020, the program will cost more than $11 billion for about 400 to 480 bombs—more than double the original estimate, making it the most expensive nuclear bomb ever built.
—Len Ackland and Burt Hubbard

This story comes from our friends at Reveal. *For more:* revealnews.org/nukes.



GREG MAXON

EXPOSURE

Head Games

PHOTOGRAPH BY ANDREA GJESTVANG

Here's how chessboxing works: Two fighters face off for 11 alternating three-minute rounds of boxing and chess, with the win going to whoever gets the first KO, checkmate, or judge's decision. The sport, billed as "the ultimate battle between men," started in Amsterdam in 2003 and has since spread to the United States, Germany, and China. Wearing noise-canceling headphones, Marat Shakhmanov of Russia (left) and Gianluca Sirci of Italy try to outmaneuver each other during their heavyweight bout at the 2014 Intellectual Fight Night in Berlin.



ANDREA GJESTVANG/PANOS PICTURES

the street. They also have restrictions against pants being worn below the waist in public. Cars must be within 500 feet of a lamp or a source of illumination during nighttime hours. Blinds must be neatly hung in respectable appearance, properly maintained, and in a state of good repair."

Where did this Kafkaesque laundry list come from? Maurer explains that in 2010, Missouri passed a law that capped the amount of city revenue that any agency could generate from traffic stops. The intent was to limit small-town speed traps, but the unintentional consequences are now clear: Pagedale saw a 495 percent increase in nontraffic-related arrests. "In Frontenac, the increase was 364 percent," Maurer says. "In Lakeshire, it was 209 percent."

This racket now has many variants. South Carolina hosts "Operation Rolling Thunder," an annual dragnet in which 21 different law enforcement agencies swarm stretches of I-85 and I-26 in the name of catching drug dealers. In 2013, this law enforcement Bonnaroo netted 1,300 traffic citations and 300 speeding tickets. But after everyone had paid up, the operation boasted exactly one felony conviction.

A different strategy in San Diego simply tacks on various fees to an existing fine. A 2012 *Union Tribune* investigation revealed that while speeding is a simple $35 fine, other government agencies can tack on as many as 10 other surcharges, including: a state penalty assessment, $40; county penalty assessment, $36; court construction, $20; state surcharge, $8; DNA identification, $16; criminal conviction fee, $35; court operations, $40; emergency medical air transportation penalty, $4; and night court, $1. When it's all said and done, that $35 ticket comes to $235.

Another report released earlier this year connects the dots: African Americans and Latinos make up less than a third of San Diego's population but represent 64.5 percent of those searched during a traffic stop.

There is still no comprehensive study to determine just how many cities pay their bills by indenturing the poor, but it is probably no coincidence that when you examine the recent rash of police killings, you find that the offenses they were initially stopped for were preposterously minor. Walter Scott had that busted taillight–which, we all later learned, is not even a crime in South Carolina. Eric Garner was selling loose cigarettes. When Darren Wilson was called to look into a robbery, the reason he initially stopped Michael Brown was for walking in the street–in Ferguson, an illegal act according to Section 44-344 of the local code. Between 2011 and 2013, 95 percent of the perpetrators of this atrocity were African American, meaning that "walking while black" is not a punch line. It is a crime.

And not just a crime, but a crime that comes with fines that are strictly enforced. In 2014, Ferguson's bottom-line-driven police force issued 16,000 arrest warrants to three-fourths of the town's total population of 21,000. Stop and think about that for a moment: In Ferguson, 75 percent of all residents had active outstand-

ing arrest warrants. Most of the entire city was a virtual plantation of indentured revenue producers.

Back in Pagedale, *St. Louis Post-Dispatch* reporter Jennifer Mann recently calculated a 500 percent increase in petty fines over the last five years. "Pagedale handed out 2,255 citations for these types of offenses last year," Mann wrote, "or nearly two per household."

"Once the system is primed for maximizing revenue–starting with fines and fine enforcement," Holder said apropos Ferguson, "the city relies on the police force to serve, essentially, as a collection agency for the municipal court rather than a law enforcement entity."

In Alabama, a circuit court judge, Hub Harrington, wrote a blistering opinion three years ago asserting that the Shelby County Jail had become a kind of "debtors' prison" and that the court system had devolved into a "judicially sanctioned extortion racket." This pattern leads to a cruel paradox: One arm of the state is paying a large sum to lock up a person who can't pay a small sum owed to a different arm of the state. The result? Bigger state deficits. As the director of the Brennan Center's Justice Program put it, "Having taxpayers foot a bill of $4,000 to incarcerate a man who owes the state $745 or a woman who owes a predatory lender $425 and removing them from the job force makes sense in no reasonable world."

When the poor come to understand that they are likely to be detained and fined for comically absurd crimes, it can't be a surprise to the police that their officers are viewed with increasing distrust. In this environment, running away from a cop is not an act of suspicion; it's common sense.

Cops like to talk about "good police." They say, "That guy is good police"–a top compliment, by which they mean cool under the pressure of the street and cunning at getting people to give up the details of a crime. Good police look bad when sharing the street with crummy police. But when budgetary whims replace peacekeeping as the central motivation of law enforcement, who is more likely to write up more tickets, the good cop or the crummy one? When the mission of the entire department shifts from "protect and serve" to "punish and profit," then just what constitutes good police? ***—Jack Hitt***

ALLOY PHOTOGRAPHY/VEER

HORN SECTION

GOOD BREEDING?

This scientist thinks he can tweak farm animals' genes to make them happier and healthier—and change the way you see GMOs.



Maybe you've watched the undercover video: A farmer presses a hot iron into the scalp of a wide-eyed calf, burning away tissue that is beginning to turn into horns. She writhes, moaning pathetically, and collapses in the dirt.

When Scott Fahrenkrug saw that footage, released by Mercy for Animals in 2010, it made him sick to his stomach. Most of the roughly 9 million dairy cows in the United States have been dehorned–with an iron, clippers, or caustic paste–to protect handlers and other cows. Fahrenkrug, then a professor in the department of animal science at the University of Minnesota, decided to do something to stop it. "I started talking to producers, and it became real clear to me that it wasn't just me being touchy-feely," he says. Dairy farmers told him they hated dehorning cows, and they were under pressure from animal welfare groups and customers, like General Mills and Nestlé, to phase it out.

Fahrenkrug knew that some breeds of

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cattle naturally don't grow horns; the problem is that these "polled" cows traditionally have been lousy milk producers. But in 2012, animal geneticists identified a bit of bovine DNA that controls hornlessness. Fahrenkrug, who specializes in a newly developed genetic modification technique known as precision gene editing, realized it would be a snap to rewrite the corresponding DNA in an embryo of a dairy breed. Presto: Hornless cows that give a lot of milk. So he quit his steady academic job and devoted himself full time to Recombinetics, the biotech startup he'd founded several years earlier.

When I toured the Recombinetics office in a former forensics lab in St. Paul, Fahrenkrug grabbed a photo off the wall of two winsome, knobby-kneed black-and-white calves. Where a typical Holstein calf would have little horn buds, they have no horns, or scars, or swirls of hair where horns used to be. He doesn't want to disclose where the calves are living since he's concerned about anti-GMO activists. But soon, he says, they will be offered as sires for artificial insemination. Their offspring will inherit the hornless trait and will pass it down to their descendants as well.

Fahrenkrug thinks hornless milk cows are just the start. Recombinetics is creating male pigs that don't go into puberty so farmers won't have to castrate them to prevent their meat from developing the funky, locker-room smell of an intact boar. He has tweaked the DNA of a few high-performance cattle breeds so they are more heat tolerant and can thrive in a warming world. He has developed piglets that are resistant to common diseases so that they will need fewer drugs, and has plans for meatier goats to feed a growing global population. The goal is animals with just the right mix of traits—and much less suffering.

Theoretically, these alterations are pretty straightforward. But Fahrenkrug still must contend with federal regulators who have never approved a genetically modified food animal. The Food and Drug Administration has spent 20 years reviewing an application for a faster-growing Atlantic salmon enhanced with genes from a chinook salmon and the eel-like ocean pout.

He will also need to change the debate over ag biotech. Many people see GM foods as a symbol of all that's wrong with the industrial food system. Fahrenkrug will have to convince them that it offers the surest and fastest route to more ethical and sustainable farming. That's a big ambition for a middle-aged academic with a relatively tiny startup.

Beyond his ethical and environmental arguments, Fahrenkrug is banking on new gene-editing technology that he believes is a game-changing improvement over the transgenic techniques of the past. While many genetically engineered organisms contain genes from a different species—like the tomato with a fish gene spliced in—the new technology does not require the use of foreign DNA, and he at first plans to use only variations that already occur in the species. His hornless Holsteins are all cow, the pigs are all pig. What's more, gene editing is extremely precise. As the name suggests, it's a little like a word-processing program: Just as a skillful editor can delete or add a word to improve a sentence without interfering with the structure of a document, gene editing makes it possible to change or disable a single gene without changing the "meaning" of the rest of the genome. So undesired effects such as accidentally turning off a useful gene or creating a new toxic or allergenic protein are less likely than with previous GMO techniques.

HORNLESS DAIRY COWS ARE JUST THE START. RECOMBINETICS IS ALSO CREATING MALE PIGS THAT DON'T GO INTO PUBERTY SO FARMERS WON'T HAVE TO CASTRATE THEM.

It's possible that the Recombinetics Holsteins will wind up in regulatory purgatory, just like the transgenic salmon. An FDA spokeswoman says that while the agency is still in "the deliberative process" regarding the techniques used to alter these animals, its authority covers "animals that have been engineered (in any way)," even if the altered trait also occurs in nature.

But it's also conceivable that the cows will get a pass. In a parallel case, the FDA recently ruled that new potato and apple varieties modified without foreign genes are "as safe as their conventional counterparts."

In the meantime, Fahrenkrug, who is known among his animal-scientist peers for his determination, says he's not planning to seek the FDA's approval under current regulations for animal genetic engineering. Those rules shouldn't apply to his polled cow project, he says, because it doesn't create any features that don't already occur: Farmers can already breed hornless dairy cows.

Until recently, there were very few high-quality polled dairy bulls, because breeding them that way is so slow and expensive. That is beginning to change. Fahrenkrug's biggest problem may turn out to be not regulators, skeptical consumers, or anti-GMO activists, but a conventionally bred, two-year-old, naturally hornless Holstein bull named View-Home Powerball. The Holstein breed association formula predicts that this youngster, bred for first-class dairy genetics, will soon rank among the nation's top five breeding bulls, as measured by the health and productivity of his many hornless daughters. For just $1,000, dairy farmers can buy 10 straws of Powerball's semen, enough to breed dozens of cows.

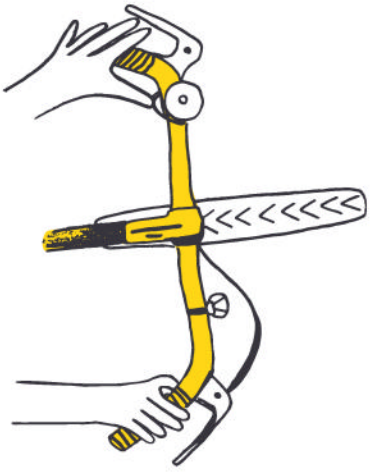
Fahrenkrug is not daunted by the competition. "One bull ain't good enough," he insists. Dairy producers can't build their herds on a single animal without getting into trouble with inbreeding. Recombinetics, in contrast, could edit the polled gene variant in dozens or hundreds of genetically diverse bulls. And that would be just the beginning: With this technology, it will be able to incorporate valuable traits from obscure breeds all around the world, developing new breeds that are hardy and healthy without the slow, unpredictable work of crossbreeding.

Fahrenkrug is confident that even the people who don't currently like the idea of genetic modification will come around once they see the benefits. It's not that he expects people to change their minds about GM corn or Monsanto. He just wants them to see that this time, the equation is different. "I'm not ignoring the challenges, but I think the moral argument surpasses the challenges," he says. "It's going to happen." ***—Kat McGowan***









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car•bon con•sum•er•ism \kähr'bən kən-'sü-mə-,ri-zəm\ *noun*
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STEVE BRODNER

I HAVE A MEME

WHEN ADS ATTACK

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In June, a video popped up on YouTube featuring a frenetic, shaggy-bearded pitchman in a chartreuse blazer. "Max Power here to tell you about an amazing new presidential candidate: Bailout Bush! If you love bailouts, you're going to love Bailout Bush!" He touted Jeb Bush's work for Lehman Brothers before the investment bank tanked in 2008 and his backing of the Wall Street bailout initiated by his brother's administration. The 75-second clip concludes with him soaking in a bathtub full of cash, as a voice-over intones: "This offer guarantees a presidential candidate [who] cannot win a single primary state, let alone the general election!"

The bizarre but memorable video was bankrolled by America's Liberty, a super-PAC supporting Sen. Rand Paul (R-Ky.). It was just a taste of what's coming in the 2016 race, when memes, GIFs, and other social-media catnip will blanket the internet. As the race heats up, every device you own, from your laptop to your Apple Watch, will become a delivery vehicle for all manner of political messaging. And you may never know which billionaire players or dark-money groups are targeting you—or how they're tracking you.

The amount of spending on digital advertising is expected to nearly double in this election cycle compared with 2012. Online spots cost a fraction of traditional TV or print ads, and political operatives are giddy over the new-and-improved ways to cheaply and creatively bombard voters with their messages. Larry Grisolano, who oversaw paid advertising efforts for the 2008 and 2012 Obama campaigns, predicts that the 2016 presidential nominees likely will devote nearly a quarter of their ad-buy budgets to digital media. Considering that each side could spend more than $2 billion to get into the White House, that's potentially hundreds of millions of dollars allocated for grabbing eyeballs.

Television ads will remain the dominant tool for winning hearts and minds, digital consultants say, but the utility of online outreach is that it can pinpoint and analyze who's seeing and clicking on what. And campaigns can microtarget potential supporters with more precision than ever before. "Everyone is spending money on Facebook," Grisolano notes. "They give you all kinds of ways to target advertisements. If, say, I want to advertise to people who show an interest in something specific, like people who are looking to buy a Volvo, I can do that."

Often, online ads are enticements to visit the website of a candidate, super-PAC, or dark-money group, where users are asked to provide their names and contact



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information. Tracking how you arrived at the website can give these outfits detailed background on your online behavior, interests, and motivations, which in turn can be used to solicit support or money.

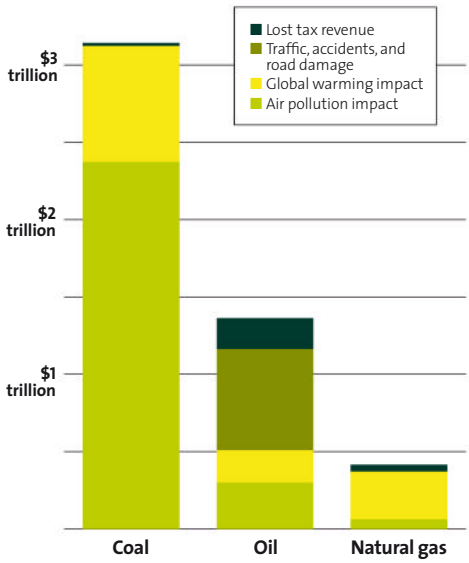
Yet while political advertisers will know a lot about you, you may know very little about them. Due to paralyzed federal watchdogs and antiquated campaign finance rules that didn't anticipate the explosion of digital politicking, there is virtually no oversight of online ads. When it comes to old-fashioned print and TV political ads, the rules are simple: The candidate or organization paying for them must be disclosed. With online ads, there's a major loophole: A disclaimer is required only if someone pays to place an ad on a website. No disclosure is required for material that is posted on a campaign site nor for videos or images that can be distributed freely via social media. In other words, an attack ad can find its way onto YouTube or get retweeted or liked a million times without anyone knowing who made it. And so-called issue ads—spots that praise or slam a candidate without explicitly telling you how to vote—are not required to carry a disclaimer of any kind, no matter where they run online. That means a dark-money group can plaster the web with content, true or false, that is devastating to a particular candidate without having to claim responsibility for it.

The Federal Election Commission's

THE HIDDEN COSTS OF DIRTY ENERGY

THIS YEAR, the world's governments are expected to hand out tax breaks and subsidies to the oil, gas, and coal industries to the tune of $233 billion. But the free ride for fossil fuels goes beyond that: New research by the International Monetary Fund finds that the hidden economic and environmental costs of fossil fuel consumption—"externalities" in econspeak—add up to nearly $5 trillion a year, or 33 percent more than the federal budget. ***—Tim McDonnell***

The external costs of fossil fuels



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last major overhaul of political advertising rules was in 2002. And that rewrite was completed long before anyone pondered the possibility of things like YouTube, much less Snapchat (which several candidates, including Paul and Jeb Bush, have incorporated into their campaigns). Currently, the commission does not have the ability to scrutinize how a campaign or any other group spends its money online. "It's not clear to me that the FEC has much of a watchdog role in terms of digital spending," says Bob Biersack, a senior fellow at the Center for Responsive Politics who worked at the commission for 30 years. (I previously worked at CRP.) "Without some kind of statutory reason to care, the FEC isn't going to force candidates to be too specific about their strategic behavior."

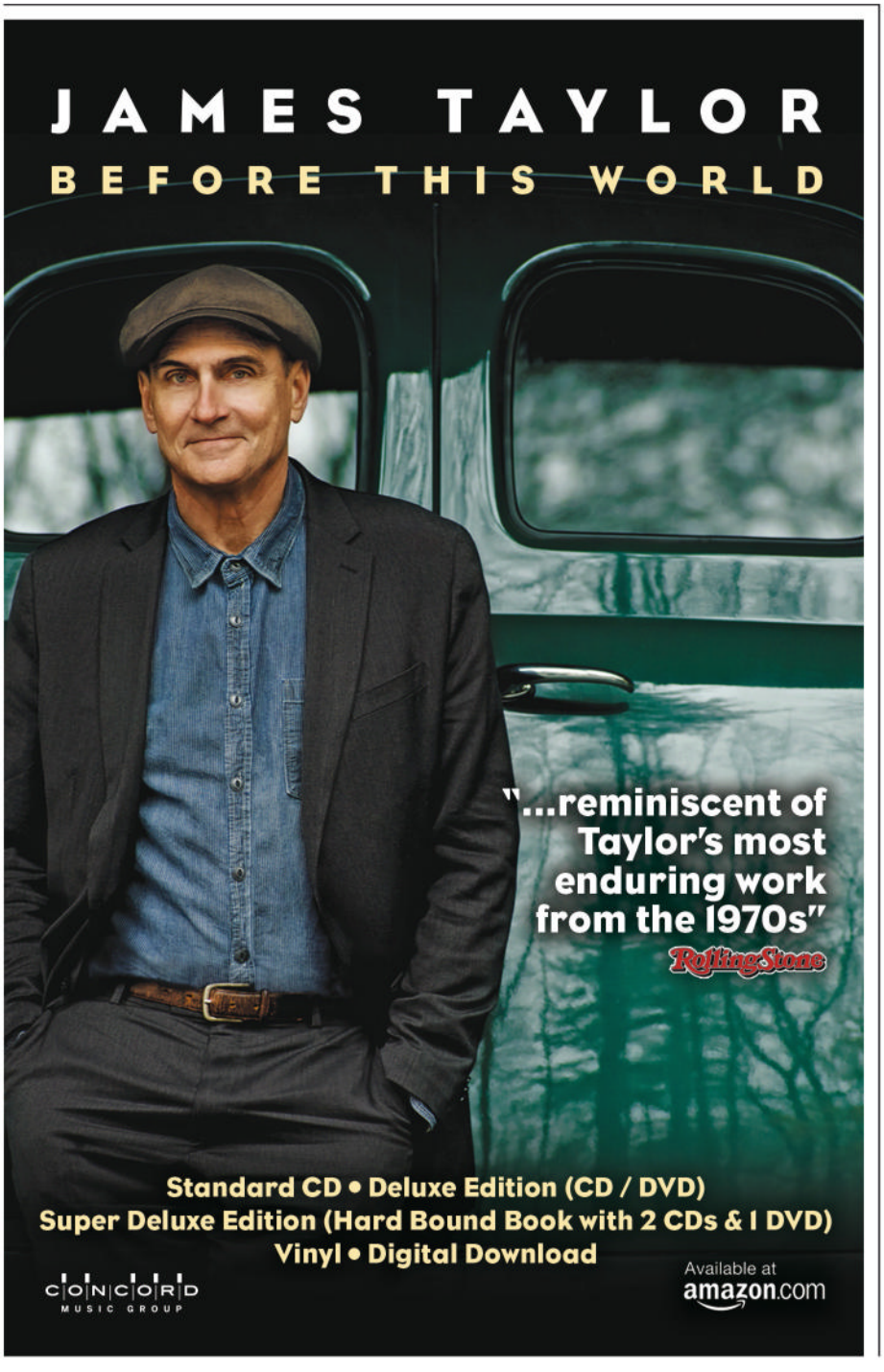
Last fall, the FEC had an opportunity to update its rules when it took up a case involving a dark-money group called Checks and Balances for Economic Growth. During the 2012 election, this outfit created two video ads attacking Obama's coal policies but never reported any spending related to the creation of these clips, which were posted on YouTube. Instead of clarifying the rules, the FEC, which includes three Democratic commissioners and three Republican ones, may have ended up making the matter even murkier. The commission deadlocked on the question of whether to mount a full-scale probe to determine if the group violated election rules. The three Republican commissioners agreed with Checks and Balances

DUE TO PARALYZED WATCHDOGS AND ANTIQUATED RULES, THERE IS VIRTUALLY NO OVERSIGHT OF ONLINE ELECTION ADS.

that a YouTube video should not be regulated as paid political advertising–then used the case to stoke fears that the Democratic commissioners wanted to censor blogs, parody videos, perhaps even the *Drudge Report*.

Early this year, Republican FEC Commissioner Lee Goodman penned a *Wall Street Journal* op-ed accusing his liberal colleagues of seeking to clamp down on harmless grassroots political expression. "Free and low-cost Internet postings are not corrupting because no large expenditures of money are necessary," he argued. He also claimed there is no way to distinguish online political discourse from paid messaging. "The specter of government agents reviewing the thousands of daily online political posts is as impractical as it is ominous," he wrote.

Democratic FEC Commissioner Ellen Weintraub says her Republican colleagues are blocking regulations for digital political ads because they oppose the commission expanding campaign finance rules under any circumstances. "One of the reasons why people like Lee Goodman are so adamant about internet freedom is because basically the wave of the future is going to be a lot more online campaign advertising," she says. "And it will effectively be going underground in terms of getting any kind of regulation." ***—Russ Choma***



A Note From Our Publisher

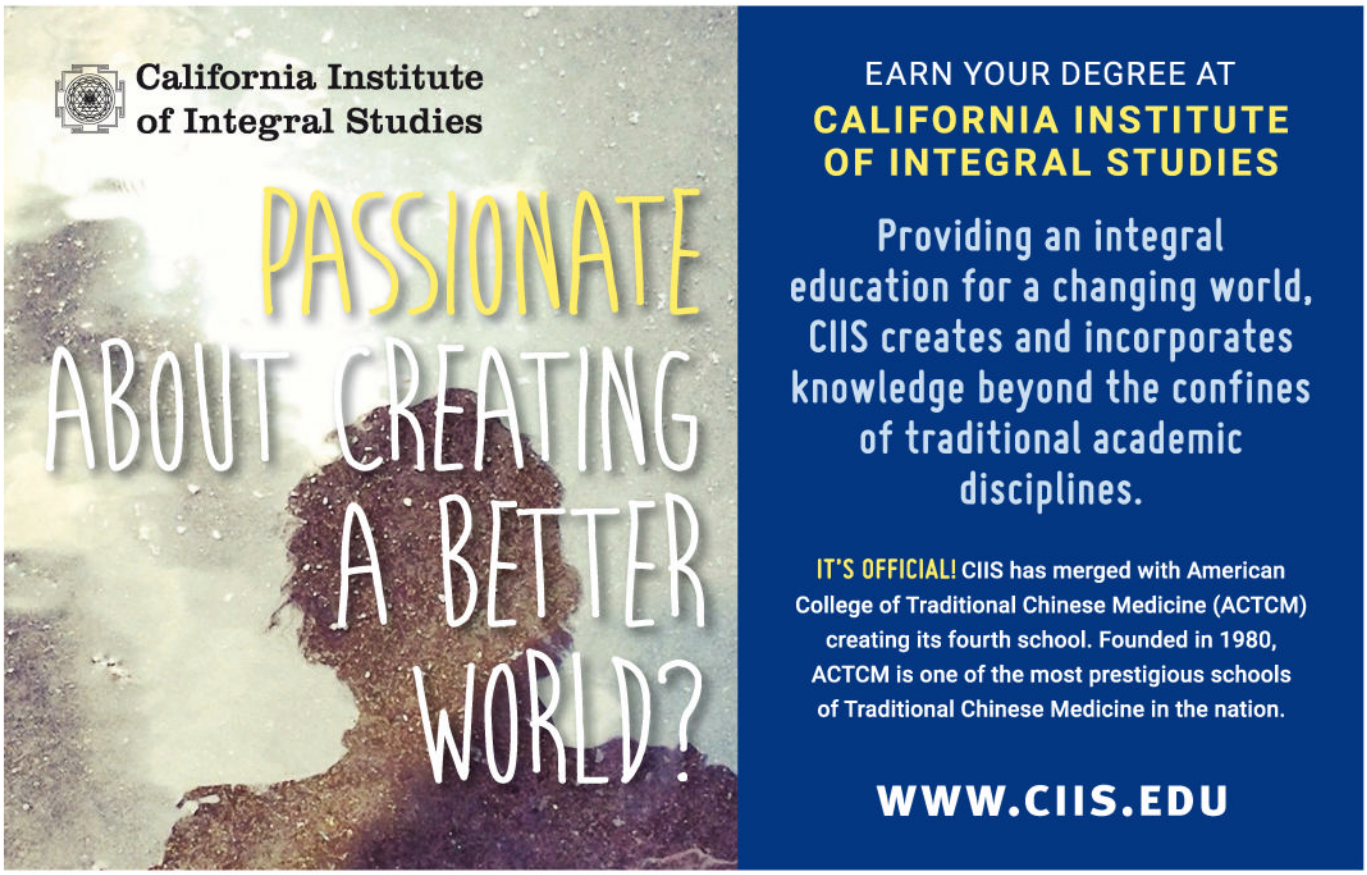
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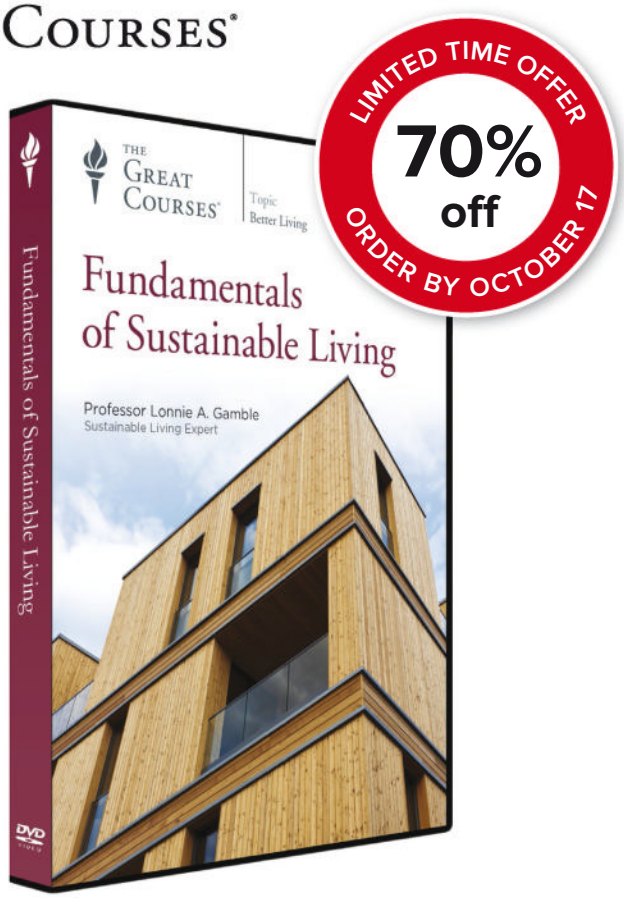
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"WE'RE NOT CRAZY"

MAAAYBE A WILD-HAIRED SOCIALIST FROM VERMONT WON'T WIN THE PRESIDENCY. BUT BERNIE SANDERS' RUN JUST MIGHT CHANGE POLITICS FOREVER.

SOMETIME IN THE late 1970s, after he'd divorced his college sweetheart, had a kid with another woman, lost four statewide elections, and been evicted from his home on Maple Street in Burlington, Vermont, Bernie Sanders moved in with a friend named Richard Sugarman. Sanders, a restless political activist and armchair psychologist with a penchant for arguing his theories late into the night, found a sounding board in the young scholar, who taught philosophy at the nearby University of Vermont. At the time, Sanders was struggling to square his revolutionary zeal with his overwhelming rejection at the polls–and this was reflected in a regular ritual. Many mornings, Sanders greeted his roommate with a simple statement: "We're not crazy."

"I'd say, 'Bernard, maybe the first thing you should say is "Good morning" or something,'" Sugarman recalls. "But he'd say, 'We're. Not. Crazy.'"

Sanders eventually got a place of his own, found his way, and in 1981 was elected mayor of Burlington, the state's largest city–the start of an improbable political career that led him to Congress, and soon, he hopes, the White House. In May, after more than three decades as an independent socialist, the septuagenarian senator launched his campaign for the Democratic presidential nomination in the Vermont city where this long, strange trip began.

The 2016 election is a homecoming for Sanders in another sense. He's returning to the role he embraced during his early years in politics–that of the long shot. In Hillary Clinton, with her lengthy CV, vast donor network, and unmatched name recognition, he could hardly have picked a tougher target. But those same qualities also position Sanders, a lifelong critic of war hawks, Wall Street, and the ruling class, to exploit the angst among progressives who spent much of the last year pining for Sen. Elizabeth Warren (D-Mass.) to run instead.

Sanders wants to break up the biggest banks, double the minimum wage, and put the entire country on Medicare. And his message has been resonating. He's drawn massive crowds nearly everywhere he's traveled. In early July, almost 10,000 people showed up to see him speak at an arena in Madison, Wisconsin. Bernie-mentum–as the pundit class has dubbed the candidate's surging appeal–has the Clinton camp worried that Sanders "could overtake her in Iowa polls by the fall and even defeat her in the nation's first nominating contest there," according to the *New York Times*.

Much of the enthusiasm for his candidacy is coming from college students and true believers who think the party establishment has been compromised. That was true of Barack Obama. It was also true of Ron Paul. Sanders' success will hinge on how much he can broaden his base beyond that comfort zone. If he can stay in the race past the first primaries, perform well in the debates, and rack up enough delegates, he might just inch the entire party, if not the country, just a few steps closer to Norway. (See "The Nordic Track," page 26.)

Which, if you think about it, does sound kind of crazy. But if Sanders has the audacity to think he might stay in the ring long enough to pull together a genuine movement, it might be because he's done it before. Sanders' early years offer a blueprint for how a self-described socialist can, with the right breaks and enough persistence, make it in electoral politics. He didn't emerge into a national political force overnight. He almost never made it at all. In Vermont he



discovered it wasn't enough to hold lofty ideas and wait for the revolution; he had to learn how to play the political game.

BORN IN FLATBUSH, Brooklyn, Bernie Sanders grew up in a working-class family. His father, a Polish immigrant whose family largely perished in the Holocaust, sold paint; his mother died when he was 18. When Sanders was a teen, his older brother, Larry—now an aspiring progressive politician in the United Kingdom—introduced him to Karl Marx and Sigmund Freud. By the time Sanders graduated from high school, where he ran for class president (and lost) on the promise of granting scholarships to Korean refugees, his political course was set.

The University of Chicago campus Sanders arrived on in the fall of 1961, after one year at Brooklyn College, would never be confused with Berkeley circa 1969, but in spite of its stodgy reputation it was fertile ground for liberal activists. Future Weather Underground cofounder Bernardine Dohrn was a year ahead of Sanders; Malcolm X came to campus to speak during his sophomore year.

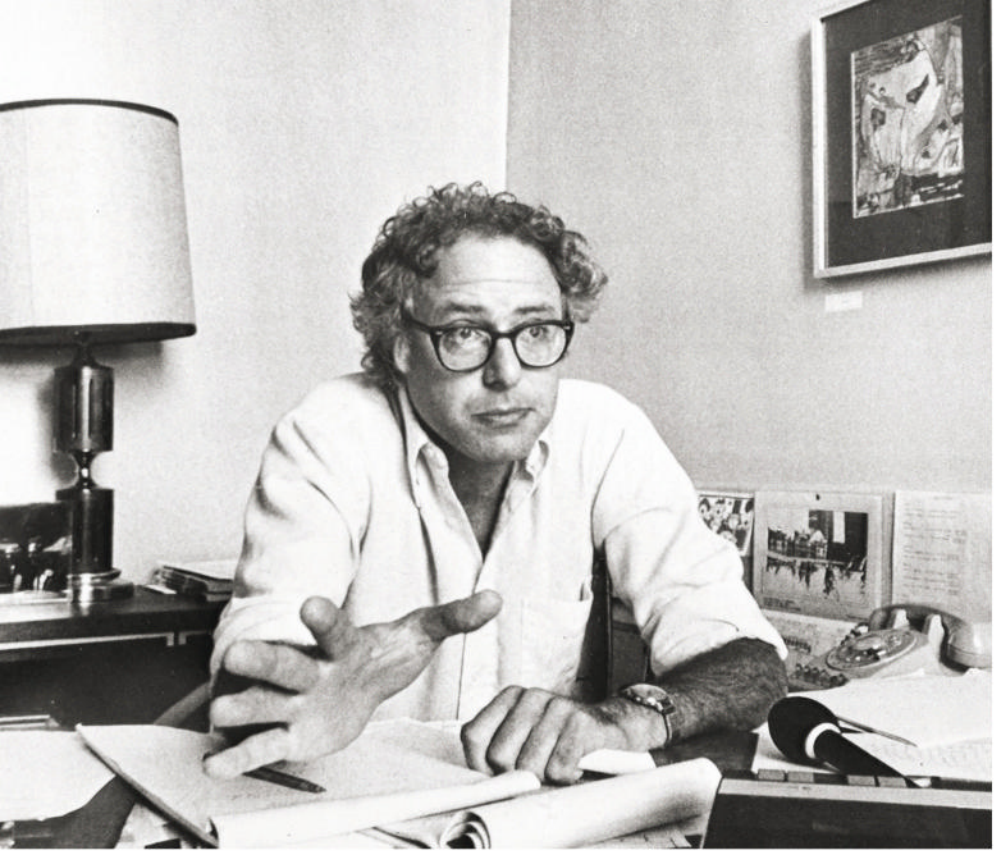
Sanders' roommate in Chamberlin House, a Gothic building that evokes comparisons to Hogwarts, was a student named David Reiter, a disciple of the conservative economics professor Milton Friedman. They entered into fierce debates over socialism, but Sanders could never let the argument rest. "I went to bed, but I have a vivid memory of him just sitting there, shaking his head sadly," Reiter says. "He was so sad that I just couldn't understand what was wrong with the free market. It was more in sorrow than in anger."

During Sanders' first year in Chicago, a campus scandal erupted when an interracial group of students uncovered systematic housing discrimination in university-owned apartment buildings. Apartments that were open to white students mysteriously went off the market when black students came to inquire, and then just as quickly opened up again. Sanders, a chapter leader of the Congress of Racial Equality, the civil rights group that organized the Freedom Rides, helped to launch a sit-in at the office of the university's president, aimed at ending the practice. After 15 days, CORE worked out a compromise with the administration—it would vacate the premises if the university included representatives from CORE in a new commission to study the housing issue. It was the first of many begrudging deals with the establishment he was fighting against. (When the journalist Rick Perlstein brought up the subject of CORE's compromise on the housing issue in a recent interview, the senator issued "a weary sigh.") Off campus, Sanders led a picket of a segregated restaurant, attended the 1963 March on Washington, and was arrested for protesting outside a segregated school.

He was, by his own admission, "not a good student." Instead of studying for his political science classes, he preferred spending long hours pursuing his own interests—the Spanish Civil War, political philosophers including Marx and John Stuart Mill, and psychologists such as Freud and his disciple, Wilhelm Reich—and generally raising hell. A 2,000-word manifesto he penned for the student newspaper, attacking the administration's strict sex-segregated housing guidelines as "fornication of the Bible and Ann Landers," triggered a campus debate on free love that made national news. That crusade was classic Sanders: firm in his beliefs, fiery in his rhetoric, and unafraid of

BY TIM MURPHY





> “He’s not a hippie, never was a hippie. But he was always a little bit on the suburbs of society.”

confrontation. It also failed. In that sense, it was an appropriate lesson for a young activist who would go on to spend most of his life as an outsider: Change takes time.

Sanders’ independent streak was evident in his choice of student groups. He joined the Young People’s Socialist League (“Yipsel”), an organization that advocated the “social ownership and democratic control of the means of production and distribution” but was explicitly anti-communist. This put the group in an awkward position—too far left for the Democrats, too far right for the true radicals. Sanders, like many Yipsel members, also became involved in the pro-disarmament Student Peace Union, which shared the organization’s alienation from Cold War politics. “They had a kind of stern independence,” says Todd Gitlin, a Columbia University sociologist who was an early leader in Students for a Democratic Society, another Yipsel-influenced group. “They regarded themselves as ‘third campers’—they didn’t want to be identified with either the West or the Soviet bloc, and in that way they were at odds with the remnants of the Communist Party and fellow travelers.” And unlike many contemporary groups, activists of Sanders’ ilk believed the path to revolution passed through traditional institutions. “There was a feeling about them that they were sort of pros, they took politics seriously,” Gitlin says. “They were the anti-utopians. They were impatient about fancy as-if thinking and sort of hard-headed about who to reach.”

Sanders and his fellow 1960s radicals did have one thing in common, though. They all seemed to want to move to Vermont.

FRESH FROM A stint on an Israeli kibbutz, Sanders arrived in Vermont in 1964 on the crest of a wave. The state’s population jumped 31 percent between 1960 and 1980, due largely to an infusion of more than 30,000 hippies. It was a retreat, in the most literal sense, from the clashes over the Vietnam War and civil rights that had defined their college years. But there was a political subtext to the move as well. A seminal essay authored by two Yale Law School students called the “Jamestown Seventy” called for the “migration of large numbers of people to a single state for the express purpose of effecting a peaceful political takeover of that state through the elective process.” Sanders and his first wife bought 85 acres outside of Montpelier for $2,500. The only building on the property was an old maple-sugar shack without electricity or running water that Sanders converted into a cabin.

Free-range hair and sandals notwithstanding, Sanders never quite fit the mold of the back-to-the-landers he joined. “I don’t think Bernie was particularly into growing vegetables,” one friend put it. Nor was he much into smoking them. “He described himself once in my hearing as ‘the only person who did not get high in the ’60s,’” recalls Greg Guma, a writer and activist who moved in the same circles as Sanders. “He didn’t even like rock music. He likes country music.” (Sanders recently revealed that he has smoked marijuana twice.) “He’s not a hippie, never was a hippie,” Sugarman says. “But he was always a little bit on the suburbs of society.”

What Sanders shared with the young radicals and hippies flocking to Vermont was a smoldering idealism, but only a fuzzy sense of how to act on it. Sanders bounced between Vermont and New York City, where he worked at a psychiatric hospital and studied at the New School for Social Research. After his marriage broke up in the late 1960s, he moved to an A-frame farmhouse outside Stannard, a tiny Vermont hamlet with no paved roads in the buckle of the commune belt. He dabbled in carpentry and tried to get by as a freelance journalist for alternative newspapers and regional publications, contributing interviews, political screeds, and, one time, a stream-of-consciousness essay on the nature of male-female sexual dy-

namics. "A woman enjoys intercourse with her man—as she fantasizes being raped by 3 men simultaneously," Sanders wrote in one eyebrow-raising passage that recently caused controversy for his presidential campaign after *Mother Jones* reported on the essay.

Sanders' politics were deeply influenced by what he learned about human psychology. Leaning heavily on the work of Reich, he wrote an essay arguing that cancer was caused by sexual frustration—which in turn was a product of bad parenting and a suffocating public school system. He criticized water fluoridation as a government intrusion on individual freedom. And, citing Freud, he elaborated on a theory of a worldwide "death instinct," in which "the human spirit has been so crushed by the society in which it exists, that the general will toward life is not very strong."

The way out, he believed, required a dramatic upheaval of cultural norms. "The Revolution is coming and it is a very beautiful revolution," he wrote in 1969. "It is beautiful because, in its deepest sense, it is quiet, gentle, and all pervasive. It KNOWS. What is most important in this revolution will require no guns, no commandants, no screaming 'leaders,' and no vicious publications accusing everyone else of being counter-revolutionary. The revolution comes when two strangers smile at each other, when a father refuses to send his child to school because schools destroy children, when a commune is started and people begin to trust each other, when a young man refuses to go to war, and when a girl pushes aside all that her mother has 'taught' her and accepts her boyfriend's love."

Sanders had been adrift in his own ideas, until he discovered the Liberty Union Party, which had been conceived in 1970 to uproot the two-party system and end the Vietnam War. In Vermont, its leaders hoped to find a receptive audience amid the hippie newcomers. Its cofounder, a gruff, bushy-bearded man named Peter Diamondstone, had predated Sanders at the University of Chicago by a year; Diamondstone likes to joke that they "knew all the same Communists" on the South Side.

By the fall of 1971, Liberty Union was floundering. "We were lost as a political party," Diamondstone says. That October, Sanders, who had done some speechwriting for one of the party's candidates a year earlier, showed up with a friend at the Goddard College library for a Liberty Union meeting. It was a large crowd by the group's standards—maybe 30 people. The party was struggling to field a candidate for the upcoming Senate special election. Sanders, with dark hair, thick black glasses, and his two-year-old son in his arms, stood up impulsively in a room full of strangers. "He said, 'I'll do it—what do I have to do?'" Diamondstone recalls.

Sanders lost that race, the first of four losing campaigns over the next five years (two for Senate, two for governor). In addition to opposing the war, the party pushed for a guaranteed minimum wage and tougher corporate regulations. Sanders floated hippie-friendly proposals, such as legalizing all drugs, an end to compulsory education, and widening the entrance ramps of interstate highways to allow cars to more easily pull over to pick up hitchhikers.

He emerged as one of the organization's leading voices and within a few years was named Liberty Union's chairman. "He was a mouthpiece, he was an orator—we called him 'Silvertongue,'" Diamondstone says. During his 1972 campaign for governor, Sanders crisscrossed the state with the party's choice for president—the child-rearing guru Dr. Benjamin Spock.

In those early years, Sanders was a true believer in what might be called small-s socialism, and he had little patience for lukewarm allies. He believed in the need for a united front of anti-capitalist activists marching in step against the corrupt establishment. Greg Guma recalled meeting Sanders for the first time and asking why he should get his vote. Sanders, in effect, told Guma that if he even needed to ask, Liberty Union wasn't for him. "Do you know what the movement is? Have you read the books?" he recalled Sanders responding. "If you didn't come to work for the movement, you came for the wrong reasons—I don't care who you are, I don't need you."

In interviews at the time, Sanders suggested that dwelling on local issues was counterproductive, because it distracted activists from the real root of the problem—Washington. "I once asked him what he meant by calling himself a 'socialist,' and he referred to an article that was already a touchstone of mine, which was Albert Einstein's 'Why Socialism?'" says Sanders' friend Jim Rader. "I think that Bernie's basic idea of socialism was just about as simple as Einstein's formulation." (In short, according to Einstein, capitalism is a soul-sucking construct that corrodes society.)

Sanders started a small monthly zine called *Movement* to promote Liberty Union's agenda and the countercultural lifestyles of its supporters. He devoted one lengthy article to an interview with a friend who had recently given birth at home. ("Don't all mammals eat the afterbirth?" Sanders asked in one leading question.)

Sanders built his campaigns around a theme that would sound familiar to his supporters today: American society had been hijacked by plutocrats, prudes, and imperialists, and wholesale reform was needed to restore it to its rightful course. "I have the very frightened feeling that if fundamental and radical change does not come about in the very near future, that our nation, and, in fact, our entire civilization, could soon be entering an economic dark age," he said in announcing his 1974 Senate bid. Later that year, he sent an open letter to President Gerald Ford, warning of a "virtual Rockefeller family dictatorship over the nation" if Nelson Rockefeller were named vice president. He also called for the CIA to be disbanded immediately, in the wake of eye-popping revelations about the agency's misdeeds.

But Sanders began to question whether Liberty Union had a future. Although the party had, at his direction, attempted to broaden its base by aligning itself with organized labor and the working poor, he drew just 6 percent of the vote when he ran for governor in 1976 (his previous three campaigns hadn't fared any better). He was drifting from the utopian ambitions of Diamondstone, who was now advocating "a worldwide socialist revolution." After the last American troops left Saigon in 1975, the anti-war party faced an existential crisis. And Sanders faced one of his own. Liberty Union could claim a few victories—it had helped to defeat a telephone rate increase, among other things. But he believed that, absent a serious change, the party would be nothing more than symbolic.

"That's what distinguished [Sanders] from leftists who were more invested in the symbolism than in the outcome," Sugarman says. "He read Marx, he understood Marx's critique of capitalism—but he also understood Marx doesn't give you too many prescriptions of how society

DONNA LIGHT/AP; PREVIOUS SPREAD: JACQUELYN MARTIN/AP, DAVID BECKER/AP, CAROLYN KASTER/AP

should go forward."

Sanders had reason for introspection. Once again single and helping to raise a young son, he was struggling financially—a newspaper article during his 1974 race noted that he was running for office while on unemployment. Increasingly, Sanders' political gaze focused on his own backyard.

Meanwhile, Sanders and Diamondstone clashed about the direction of Liberty Union—and pretty much everything else. "When I was on the road, I would stop at his house and I'd sleep downstairs, and we'd yell at each other all night long, and sometime around three o'clock in the morning, we'd say, 'We gotta stop this,' so we could get some sleep," Diamondstone recalls. "Five minutes later we'd be yelling at each other again."

Sanders quit the party in 1977, and his relationship with Diamondstone continued to deteriorate; when Sanders campaigned for Democratic presidential nominee Walter Mondale in 1984, Diamondstone followed him to every campaign stop, handing out leaflets calling the then-mayor a "quisling."

After cutting his ties with Liberty Union, Sanders remained as confident as ever of the need for radical change in the nation's power structure, if less sure of how to get there. First, he had to get his life in order. "He was living in the back of an old brick building, and when he couldn't pay the [electric bill], he would take extension cords and run down to the basement and plug them into the landlord's outlet," says Nancy Barnett, an artist who lived next door to Sanders in Burlington. The fridge was often empty, but the apartment was littered with legal pads filled with Sanders' writings. When he was eventually evicted, Sanders moved in with his friend Sugarman.

"The fact that neither of us could afford to live in the city where we worked was a source of great consternation to us and I think the beginning of a [mayoral] platform, honestly," Sugarman says of their roommate days.

Sanders kept busy building a company he had started with Barnett called the American People's Historical Society, which produced filmstrips for elementary school classrooms on topics including women in American history and New England heroes. It was a DIY operation—Sanders did the male voices, Barnett the female ones. The work took them up and down New England's back roads, as they sold copies of the filmstrips to school administrators. "His cars were always breaking down," Barnett says. "He was extremely frugal." In one of his jalopies, Sanders (or one of his passengers) had to clear the windshield manually using the wiper blade he kept in the glove compartment.

Sanders channeled his earnings from the educational films into his pièce de résistance: a documentary on the life of union leader Eugene Debs, who won nearly a million votes running for president from prison on the Socialist ticket in 1920.

"We had gone to New York and lined up Howard Da Silva, who was a big Broadway booming voice actor, to play Eugene Debs' voice," Barnett explains. "But that didn't quite work out, so Bernie ended up doing the narration of Debs' voice." Bernie Sanders is from Brooklyn; Debs was not. The movie also suffered from the filmmaker's reverence for his subject. Sanders, one reviewer opined, seemed "determined to administer Debs to the viewer as if it were an unpleasant, but necessary, medicine."

When Sanders tried to get the documentary aired on public television in 1978, he was rebuffed. Fearful perhaps that even humble Vermont Public Broadcasting had fallen under the dominion of corporate media, Sanders cried censorship and fought back. Eventually, the Debs documentary was broadcast. "That was a breakthrough

THE NORDIC TRACK

BERNIE SANDERS' PLAN TO MAKE THE UNITED STATES MORE LIKE SCANDINAVIA

When ABC's George Stephanopoulos asked Bernie Sanders earlier this year whether a self-proclaimed socialist could be elected president, the candidate brought up Scandinavia. "In those countries, by and large, government works for ordinary people in the middle class rather than...for the billionaire class." "I can hear the Republican attack ad right now," Stephanopoulos replied. "'He wants America to look more like Scandinavia.'" Sanders didn't hesitate. "That's right. And what's wrong with that?" How would Sanders Scandinavian-ize the US? Here are his big ideas:

Double the minimum wage. Congress can't pass a $10 minimum wage. Sanders thinks it just isn't shooting high enough—he wants $15, or more than double the current rate.

Tax the rich. (And tax them. And tax them.) He endorses a return to Eisenhoweresque tax rates of potentially more than 50 percent for Americans in the highest tax brackets.

Cap and tax. Right now, companies deduct "performance-based" executive compensation, such as bonuses and stock options. But Sanders wants them to pay taxes on these perks if the gap between top and bottom salaries exceeds a certain percentage—or they could spread the wealth to the low-wage workers at the bottom of the scale.

Universal Medicare. Sanders voted for the Affordable Care Act, but he still

of sorts," Sugarman says. "That was actually our first successful fight."

Not long after making the Debs documentary, Sanders got back in the political game. He ran for mayor of Burlington in 1981 as an independent, and he crafted a hyperlocal platform that cut across party lines—he opposed a waterfront condominium project, supported preserving a local hill for sledding, and pushed to bring a minor league baseball team to town. Sanders was still, at heart, the same neurotic activist who picked fights with Diamondstone over socialism, but he recognized that voters in Burlington wanted to hear what he thought about Burlington.

At first, no one gave Sanders a shot. He focused on building support in Burlington's poor and working-class neighborhoods, where voters felt forsaken by the longtime Democratic incumbent, Gordon Paquette. From there, he assembled a surprisingly broad coalition, even winning the endorsement of the local police union. To everyone's surprise, he knocked off Paquette by 10 votes out of 8,650 cast. After a decade on the outside, Sanders finally had a foot in the door—and a steady job. "It's so strange, just having money," he told the Associated Press at the time.

As Burlington's mayor, and later as a US representative and senator, Sanders has followed a similar formula. He's unafraid to raise hell about the corporate forces he fears are driving America into the ground—replace "Rockefeller" with "Koch" and his Liberty Union speeches don't sound dated—but always careful to keep Vermont in his sights. The days of meandering psychoanalytic cultural critiques are mostly over. And while he's running on a platform that includes some pretty radical ideas for Washington—single-payer health care; free college; 50-percent-plus income tax rates for America's top earners—at times, Sanders has shown a willingness to compromise that's disappointed longtime ideological allies. He has supported the F-35, Lockheed Martin's problem-plagued fighter jet that has led to hundreds of billions of dollars in cost overruns; Burlington's international airport was chosen as one of the homes for the planes. "He became what we call up here a 'Vermont Exceptionalist,'" Guma says of the candidate's pragmatic streak. Sanders has also drawn heat from the left over his libertarian-tinged position on gun control, which has at times allied him with his Republican colleagues, including in 2005 when he voted for a bill that shielded gun manufacturers from legal liability when their firearms are used by criminals.

Unlike his idol Debs, whose third-party campaigns earned him roughly the same percentage of the vote as Liberty Union's first electoral forays, Sanders is now running within the Democratic Party. He has chosen, as he did many years ago, relevance over purity, to engage the system rather than escape it. He could hardly have picked a better time. On many of the issues he's spent his career championing, Sanders no longer sounds so fringe. The party's progressive wing rebelled in May over President Obama's Trans-Pacific Partnership (TPP), the most polarizing free-trade deal since NAFTA (which, naturally, Sanders voted against). The $15 minimum wage is the hottest new trend in municipal governance. Billionaire donors are forming their own de facto shadow parties. Income inequality has become so pronounced even Republicans are talking about it.

The polls of the presidential race give Clinton a commanding lead over Sanders. But they also put him squarely in second place, well ahead of former Maryland Gov. Martin O'Malley. Sanders has signaled that Clinton's early support for the Iraq War—which first created an opening for Obama in 2007—will be fair game during the race. He's jabbed the former secretary of state for her ambiguous stance on the TPP. And in a nod to the Clintons' deep pockets (and even deeper-pocketed donors), Sanders has warned that his rival is not "prepared to take on the billionaire class" that he believes is a driver and beneficiary of income inequality.

He's also learned the risks of being taken seriously. The Clinton campaign has already showed its willingness to take the gloves off. In June, Hillary-backer Sen. Claire McCaskill (D-Mo.) suggested that reporters were "giving Bernie a pass" on his socialist roots and argued that he'd fall back to Earth once people started to treat him "like a serious candidate." Even as Sanders bounced from one overflow crowd to the next (3,000 in Minneapolis; 2,500 in Council Bluffs, Iowa), he spent much of the first week of his campaign explaining away that 1972 essay on gender norms. It was, he ultimately told NBC's *Meet the Press*, a piece of "fiction," along the lines of *Fifty Shades of Grey*. It wasn't the splash the campaign hoped to make, but the real news was that the story was news at all; cable news never went into overdrive over Dennis Kucinich's early years.

Sanders is now standing on the biggest platform of his political career. Win or lose, his ideas will influence the national debate as never before. Sanders always seemed to know that he'd get his chance to effect big change, even if others dismissed him as a radical or derided him as a socialist. Perhaps this was what he meant when he repeated those self-affirming words—"We're not crazy"—to Richard Sugarman all those years ago. And if Sanders were to somehow defy the odds, he and Sugarman could be reunited in Washington. Sanders has promised his old friend, who still teaches at the University of Vermont, the same position he held during the mayoral years in Burlington—"Secretary of Reality." ■

dreams of a single-payer system—Medicare for everyone.

Make Wall Street pay for college. Tax every Wall Street transaction—the so-called "Robin Hood tax"—and use the money to make tuition free at public colleges and universities.

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How the War on Women Was Won

While you weren't watching, conservatives radically changed the landscape of abortion.

BY MOLLY REDDEN
PHOTOGRAPHS BY DONNA FERRATO

When she was 20 years old, Renee Chelian began every Friday with a predawn drive to an airplane hangar outside Detroit. There she met an abortion doctor and a pilot who flew them to Buffalo, New York.

This was 1971. *Roe v. Wade*, the Supreme Court decision that established a woman's right to an abortion, was still a year and a half away, and New York was one of the few places in the country where abortion was legal. Chelian was the doctor's assistant. She cleaned instruments and made appointments for women who hitchhiked or drove from all over the Midwest and New England to reach the clinic.

Chelian knew well why these women were willing to make the journey to Buffalo. Just five years earlier, at 15, she'd gotten pregnant by her high school boyfriend. She was resigned to dropping out of school. On the night she was packing her suitcase "to go get married," her parents came into her room and asked if she wanted an abortion instead. "What's that?" Chelian asked.

A few days later, Chelian and her father let a stranger blindfold them and drive them to a warehouse on what she thought were the outskirts of Detroit. Chelian waited her turn on a folding chair, staring at an oil slick on the cement floor. The place seemed to be packed with other women, but it was hard to tell. "All I can picture are women's feet," she recalls. "I was afraid to look at anybody, because what if I just somehow upset the balance and they wouldn't do my abortion?" After what felt like hours, someone—she doesn't know if he was a doctor—performed the illegal procedure. They packed her with gauze and sent her home.

It wasn't until years later, when she was working for her family doctor, that she realized how lucky she was not to have been caught, or suffered complications, or died. When the doctor began providing legal abortions in Buffalo, she leaped at the chance to help.

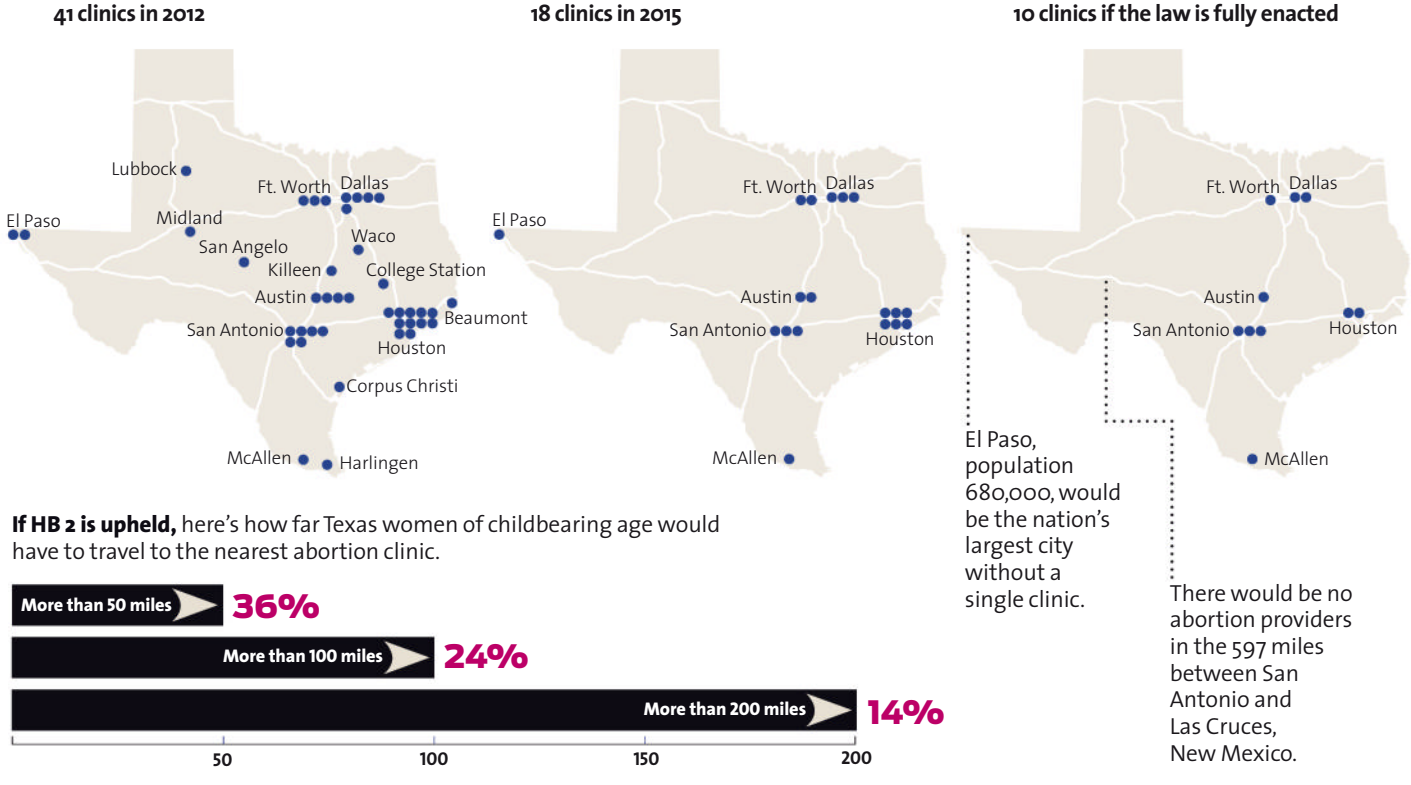
Chelian is now 64 and has two grown daughters. She's the founder and CEO of Northland Family Planning Center, a group of three clinics that perform abortions in the Detroit suburbs. A petite woman with a blunt haircut and a round face, Chelian is matter-of-fact and seemingly unflappable. But when we talk about her clinics, her tone intensifies. Her business is under constant threat of closure from the conservative Michigan Legislature, which has spent the past four years churning out a string of arbitrary new abortion restrictions designed to shut clinics like Northland down. One proposal required Northland to have one bathroom for every six patients.

"Sometimes, I feel like I've gone back 40-some years," she says. "And I can hardly believe that." Women trek hundreds of miles north from Dayton, Ohio, or east from South Bend, Indiana, for an abortion at one of her centers. Some are already miscarrying—probably after taking pills or herbal concoctions they got from the internet. A few have tried to open their cervix by digging into it with a sharp object.

This is what 2015 looks like: Abortion providers struggle against overwhelming odds to stay open, while women "turn themselves into pretzels" to get to them, as one researcher put it. Activists have been calling

HOW FAR IS A REASONABLE BURDEN?

A 2013 Texas law closed more than half of the state's 41 abortion clinics. If the Supreme Court allows the full law to stand, the number of clinics would drop to 10.



Sources: Fund Texas Choice, Texas Policy Evaluation Project



Amy Hagstrom Miller has taken her fight to keep clinics open to the Supreme Court.

it the "war on women." But the onslaught of new abortion restrictions has been so successful, so strategically designed, and so well coordinated that the war in many places has essentially been lost.

Most abortions today involve some combination of endless wait, interminable journey, military-level coordination, and lots of money. *Roe v. Wade* was supposed to put an end to women crossing state lines for their abortions. But while reporting this story, I learned of women who drove from Kentucky to New Jersey, or flew from Texas to Washington, DC, because it was the only way they could have the procedure. Even where laws can't quite make it impossible for abortion clinics to stay open–they are closing down at a rate of 1.5 every single week–they can make it exhausting to operate one. In every corner of America, four years of unrelenting assaults on reproductive rights have transformed all facets of giving an abortion or getting one–possibly for good.

"Every day is just frightening," Chelian said. "I think things are bad, and then they get worse somewhere else. And you go, 'Oh my God, it could be worse.' And I go to sleep with that. I wake up with that."

ABOUT TWO YEARS ago, Amy Hagstrom Miller, the CEO of Whole Woman's Health, decided that the best way to provide abortions in Texas was to leave Texas.

It was the summer of 2013. A state senator sporting pink running shoes had just spent 11 hours on her feet filibustering a bill that threatened to shut down more than three-quarters of Texas' 41 abortion clinics. The night ended with Wendy Davis becoming an internet sensation. But by dawn the next morning, Republican Gov. Rick Perry announced he'd call the Legislature back for a special session. The bill soon passed.

One portion of the bill–known as HB 2–required all abortions to take place in what amounts to a mini-hospital. Another section required clinics to make administrative pacts with local ERs, which wiped out clinics in areas where all the hospitals are Baptist or Catholic, or susceptible to political pressure.

Before the measure, Texas had 41 clinics. Within four months, there were only 22; today, there are 18. As different sections of the law clicked into place, every clinic west of San Antonio closed down but one–there used to be five–leaving a swath of Texas 550 miles wide without a single abortion provider.

HB 2 was not the only assault on providers. In College Station, the site of Texas' largest university, a Planned Parenthood clinic, felled by dramatic cuts to the state's family planning budget, has been replaced by a crisis pregnancy center, a pro-life clinic where women are told scientifically debunked claims about supposed links between abortion and breast cancer or thoughts of suicide.

The new laws have been so confusing that women seeking an abortion in Texas aren't sure they're available at all. If you call the Texas Equal Access (TEA) Fund, an organization that helps North Texas women cover the cost of abortions, you'll hear a voicemail greeting that begins: "We would like to assure you that abortion is still legal in Texas. It is not illegal to seek abortion services."

Whole Woman's Health operates four clinics in Texas. But if HB 2 is fully enforced, which means that abortions could only take place in hospital-like clinics, just one of those clinics would remain open. Miller wasn't willing to concede the fight. Instead, Whole Woman's Health sued the state, claiming that the distances women would be forced to travel constitute an "undue burden"–the legal standard the Supreme Court established in 1992 for striking down an abortion restriction.

Miller won in district court, but lost when the state took the case to the 5th Circuit Court of Appeals. In June, the US Supreme Court put the 5th Circuit's decision on hold–for the time being, all 18 clinics remain open pending the high court's decision in the fall as to whether it will hear the case. Because the lawsuit offers the court a chance to clarify the definition of "undue burden," it could be the most important–or detrimental–decision on abortion rights in two decades. If Miller loses, Texas will

be free to shut down all but 10 clinics.

Miller is not waiting for that. Her newest clinic for Texas women is across the state border–in Las Cruces, New Mexico.

Miller is feisty, with a sharp blond bob and commanding, sonorous voice–think of an energized Patricia Arquette. She operates a total of eight clinics in Texas, New Mexico, Illinois, Maryland, and Minnesota. I met her at the Whole Woman's Health clinic in Baltimore to talk about the situation in Texas. ("We might as well be in Sweden," she said, "talking about abortion in Nicaragua.") One of the central tenets of the abortion rights movement is that no woman should have to cross state lines to exercise her constitutional right. That's what women had to do back when Chelian flew to Buffalo each weekend. That's what *Roe* was supposed to have ended. But as we navigated a small maze of plush recliners in the recovery room, Miller said that those days had returned.

Almost half of the patients at Whole Woman's Health in Las Cruces come from Texas. It's an hour's drive from El Paso, which in 2010 had two clinics–but one already closed, and the other one will if Miller's lawsuit does not succeed. That would make El Paso the largest city in America (population 680,000) without a single abortion provider. Even now the clinic is so overburdened that many Texas women can't get an appointment at the remaining clinic, and so they drive to Las Cruces instead.

Some travel much farther. A spreadsheet posted on the wall in the bathroom indicated that some patients have driven six hours from Lubbock, even 10 hours from the Dallas suburb of Waxahachie. "Charlie," a 25-year-old student, had come from West Texas, five hours away. She wore a waffle tee that showed off an intricate tattoo on her sternum–inspired, she said, by her tightly knit group of friends.

Ironically, the fact that Miller opened a clinic in Las Cruces is now being used to fight her lawsuit: The state of Texas has acknowledged that under the new restrictions, El Paso women would live 1,100 miles, round-trip, from the nearest Texas abortion clinic–but, state lawyers noted, Whole Woman's Health in New Mexico is only an hour away from El Paso. The 5th Circuit Court of Appeals agreed with that logic, but the real test lies with the Supreme Court.

While Texas has been the epicenter of the debate over abortion access, the broader story goes far beyond the Lone



Anti-abortion protesters demonstrate in Detroit. Michigan lawmakers are seeking creative ways to impose costs on clinics.

Star State. In many ways, the successes of abortion opponents could read like a real-life example of what political strategists call "moving the Overton Window," or shifting the parameters on what are publicly–and therefore politically–acceptable options between two extremes. As this political theory goes, apply the right pressures, and over time the window can shift and radical ideas can become mainstream. Many abortion opponents have abandoned violent protests and clinic bombings to push for restrictions that purport to be about informed consent (waiting periods) or safety (surgical facilities).

Where providers like Miller and Chelian see an extreme public health crisis, abortion foes see progress. Charmaine Yoest, the president of Americans United for Life, says that "apocalyptic" stories about abortion restrictions are not "an accurate representation." AUL, which has written most of the model abortion legislation adopted across the country, is responsible for the recent wave of restrictions. Yoest claims that *Roe v. Wade* implicitly permits abortion for any reason at any time during pregnancy; the legislative changes AUL champions are moderating forces on an otherwise radical and dangerous law.

Because AUL's measures seem reasonable, not only can legislators from red districts use them to rally the base, but those from purple districts can get behind them without facing a backlash. But the effects of these seemingly moderate and sensible abortion restrictions have, in fact, been breathtakingly radical.

A clinic called the Cherry Hill Women's Center in southern New Jersey is seeing more and more patients from Virginia–they travel that far because clinics in Maryland and Delaware are overbooked–and the Midwest, where many clinics have shut down. Ohio has closed 7 of 16 clinics since 2011. Women from Ohio and Indiana have increasingly crossed state lines to go to Chelian's clinics in Michigan.

In many states, women also have to plan their long journeys around an obstacle course of abortion restrictions. Thirteen states, including Texas, have introduced laws that require women to make an extra clinic visit–usually for anti-abortion counseling–24, 48, or even 72 hours before they can get the procedure. Sarah Roberts, a researcher with a project called Advancing New Studies in Reproductive Health at the University of California-San Francisco, found that Utah's three-day waiting period caused the average woman to delay her abortion eight days. The delay cost women money (in Texas, women who pay out-of-pocket spend an average of $141 on these extra visits) and forced them to have to tell more people about their abortions. Roberts met one woman who couldn't get an abortion because the delay prolonged her pregnancy to the second trimester.

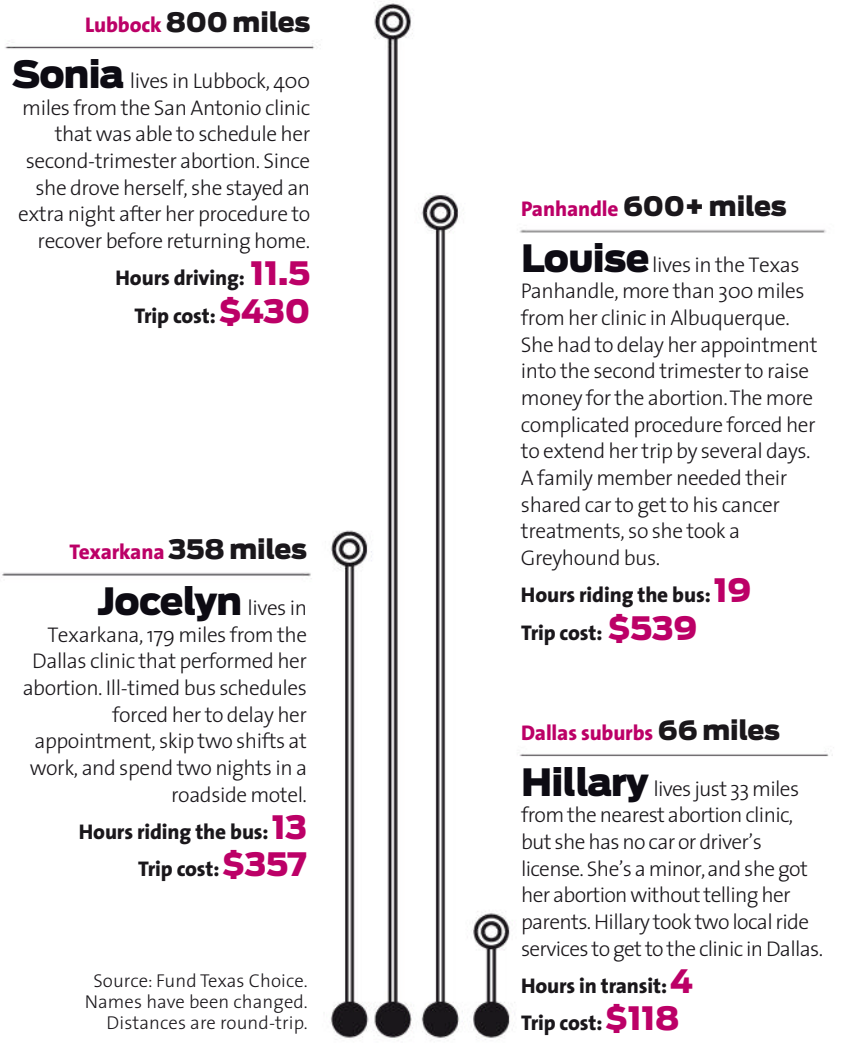
Fewer abortion clinics also means longer waits, which can mean a more complicated and expensive procedure. In the past year, the TEA Fund has helped 402 women pay for abortions but was asked for help by an additional 2,569. It had to double the average amount of money it spends per patient from $100 to $200.

"You really only get to give people good news for maybe the first couple hours of your shift," says Desirae Embree, a graduate student at Texas A&M University who volunteers for the fund. "From then on, you're probably going to be calling people who are desperate and need help to tell them that there's no more money left, and they need to try again."

Jo Wunderlich, who also volunteers at the TEA Fund, recently took a call from a

MILES AND MILES OF TEXAS

The dwindling number of clinics has forced many Texans to trek long distances for their procedures. Here's how far four women had to travel to get to a clinic.



Source: Fund Texas Choice. Names have been changed. Distances are round-trip.

young woman who'd just sold her car to pay her rent. To raise money for her abortion, she pawned her TV. The TEA Fund gave her $200, the maximum Wunderlich was authorized to give, but she was still several hundred dollars short. "I know she'll be fine," Wunderlich said, as much to herself as to me. "She's in her first trimester. She still has time to raise the money."

THE BALTIMORE Whole Woman's Health clinic where I met Miller is decked out with purple walls and furniture. It's Miller's ideal clinic: There are Margaret Cho aphorisms stenciled on the walls, and women can bring their husbands, friends, or families with them into the procedure room. To lessen the intimidation factor, staff gave the lab and ultrasound rooms names like the Patti LaBelle Room. Patients get abortions in the Reba McEntire Room.

> "Every day is just frightening. I think things are bad, and then they get worse somewhere else. And you go, 'Oh my God, it could be worse.'"

By contrast, the kind of "ambulatory surgical center" (ASC) that Texas wants to require for abortion clinics is a hulking facility intended for outpatient surgery. There are strict square footage standards and requirements for pricey equipment—like scrub sinks and air filtration systems—that doctors simply don't need for first-trimester abortions. In some cases, it costs providers about 40 percent more in utilities and property taxes to run an ASC. That is, if they can raise the funds—several million dollars—to build them. In addition to Texas, 24 other states have passed legislation to require many abortions to be performed in such facilities, although litigation is pending in two of those states.

"It really changes the nature of the practice," said Carole Joffe, who has studied abortion providers for decades through the UC-San Francisco project. "Beyond the financial demands of what ASCs mean," she said, "what these restrictions have done—and it's so cruel—is they've struck at the heart of how good abortion care has been visualized for so long."

The laws requiring abortions to take place in ASCs are not intended to shutter abortion clinics, abortion foes insist. Abortion should simply be treated like other surgical procedures, says AUL's Kristi Hamrick. "The states themselves have a standard for locations that want to engage in some kind of surgical procedure," she says. "The abortion industry is acting like somehow the pro-life movement went out with a tape measure to create these standards. It's not AUL that's dictating the size of the hallways."

But mainstream medical groups are unequivocal that the vast majority of abortions do not require such precautions. Ninety percent of abortions take place in the first trimester. The procedure is typically performed while the woman is under mild sedation or awake and under local anesthesia. The doctor places a speculum in the vagina, dilates the cervix, and uses a suction device—which can be electrical or as simple as a small plastic syringe—to remove the pregnancy from the uterus. Afterward, most women spend an hour or so with a heating pad to ease cramps before going home. Complication rates are incredibly low; abortion is 40 times safer than a colonoscopy. Everyone agrees that second-trimester abortions have enough potential complications that they should take place in surgical facilities. But the American College of Obstetricians and Gynecologists has reviewed decades of evidence and determined that most abortions are safe to perform in a properly equipped doctor's office.

AUL's Yoest disagrees: "I find it really offensive when they make these kinds of arguments. The abortion industry wants to try to convince the American public that they should be allowed to maintain unsafe businesses under the guise of access. For them to say, 'We can't meet health and safety standards, so we should be allowed to continue operating,' it defies common sense."

To see the potential future of abortions in Texas, I went to the Planned Parenthood clinic in Dallas. It's a charmless, concrete behemoth that was once used for knee, hernia, and rotator cuff surgeries. Planned Parenthood purchased it in 2014 for $6.8 million.

Kelly Hart, the director of government relations for Planned Parenthood of Greater Texas, gave me a tour. The size makes it easy for us to lose track of each other when I stop to look around, and I find her by the clacking of her heels. Occasionally, the sound is swallowed up by construction noises. This was the only location Planned Parenthood could purchase in its desperate hurry, and it's way too big for its purposes. Case in point: To comply with Americans With Disabilities Act rules, the group is forced to build an elevator where the back door used to be.

"Part of me is humiliated that I even have to talk to you about an elevator," Hart shouts over the caterwauling of a circular saw. "A fricking *elevator*."

Hart clicks through the door of an operating theater. It's about the size of a starter apartment, and it's slightly cozier than a meat locker. Planned Parenthood wanted to decorate the barren white walls with art. But ASC rules about dust control caused staff to reconsider. Above us, a set of cryptic-looking nozzles, for pumping nitrous oxide and compressed air, jut out from the ceiling like high-tech stalactites. "It's frightening, isn't it?" Hart says. "And there's just no reason for that." None of them have hoses attached; the doctors don't need what they pump. At the nurses' station, a row of blinking orange lights alerts us that the supplies are low.

"In my clinics, staff have scrubs on, but they can hold a patient's hand," Miller told me. "They can wipe away her tears." Women wait for their turn in a reception area, she added, and they wear their own clothes. But in surgical centers like this one, all the patients are naked beneath their hospital gowns. "There's no individuality." Nurses disappear beneath bonnets and booties and surgical masks. Clinics can't use heating pads any more, because they might harbor bacteria. These are appropriate safety measures for facilities where surgeons cut people open—but that's not what happens in a first-trimester abortion.

Denise Burke, the vice president of legal affairs at AUL, derides Planned Parenthood's new surgical facilities as "abortion megacenters." But the paradox is obvious: Across the country, because of laws championed by AUL, "megacenters" have become the norm. In the states where they are successful, reality is reminiscent of a classic *Onion* article: "Planned Parenthood Opens $8 Billion Abortionplex."



Renee Chelian (left) has had to spend thousands to have her clinics meet new guidelines.

OF COURSE, for the last 15 years, abortion hasn't necessarily required a "procedure" at all. Since the Food and Drug Administration gave its approval to RU-486—a.k.a. the abortion pill—in 2000, more than 2 million women have ended their pregnancies using medication alone. The ease, privacy, and efficiency offered by this method comes with great advantages.

Take Iowa. Planned Parenthood has seven clinics in the state where women can get the two types of pills necessary for an abortion: Mifeprex, which blocks progesterone, a hormone that is vital to a pregnancy, and misoprostol, which causes uterine contractions that flush out the pregnancy.

Medication abortion is ideally suited for a rural state like Iowa because the doctor's role is fairly uncomplicated. A doctor assesses a woman's chart and vitals, explains how the pills work, and hands them over. The doses are spaced one to two days apart, and women can take the second dose at home. Because few Iowa doctors are willing to provide abortions, and the population is so dispersed, Planned Parenthood started to link patients to doctors over video chat—what's called "telemedicine." At any one of its seven clinics, a nurse seats a woman in a sparse room with a computer monitor. The doctor and the woman talk via video feed. Then, with a remote control, the doctor opens a drawer next to the woman containing her pills.

"I'll say, 'Okay, the drawer's gonna pop open, kind of abrupt. Ready, set, go!' And I click the button, and it just pops right open," says Jill Meadows, a Planned Parenthood physician and its medical director for Iowa and Nebraska. "It's not much different at all whether I'm in the clinic. It's the same exact process." Except it saves many women an eight- or nine-hour round-trip.

Which is why it has become another target of abortion foes, who have managed to ban telemedicine abortions in 17 states since 2011. In Iowa, the program was nearly eliminated: In 2013, Republican Gov. Terry Branstad appointed a Catholic priest who had lobbied against it to the nine-person state board of medicine, which promptly shut the program down—though it was saved in the end by the Iowa Supreme Court.

But the fight is not over. Abortion foes have also legislated the dosage of medication a woman may take. Typically, doctors now prescribe 200 milligrams of Mifeprex and 800 micrograms of misoprostol. That's different from the amounts the Food and Drug Administration originally approved when RU-486 first arrived on the scene in 2000. And while such tweaking is common in medicine as new evidence accumulates, five states (Iowa is not one of them) have now passed laws requiring doctors to prescribe abortion pills according to the original, outdated FDA guidelines.

Those older dosages make the medication harder to tolerate—failure rates more than double, and almost every woman experiences at least one severe side effect like nausea, vomiting, or cramps. Many abortion providers simply refuse to prescribe abortion drugs under these rules. I found only one provider, David Burkons of Cuyahoga Falls, Ohio, who uses

the old dosages and was willing to talk about it on the record. "I explain it to patients. I explain there could be these effects," said Burkons, not a little defensively. "And still, there are people who, this is what they want to do." The whole thing requires four trips to his office: Once to hear Burkons read a script describing the fetus, which is required by the state, once for each dose, because the old guidelines prevent them from taking the second dose at home, and a fourth time for a follow-up. Women often bleed after the second dose—only now it's in their cars instead of at home. Because the old rules require a higher dose, the procedure currently costs an extra $160.

And it gets more Kafkaesque: Since Burkons started prescribing abortion pills under the rules promoted by abortion opponents, he has reported 17 instances of patient complications to the state health department. Almost all of those women had experienced incomplete abortions—an inevitable outcome when using the outdated dosage. Operation Rescue, an anti-abortion group, got hold of those reports and splashed them across its website. "His dangerous abortion operation should be closed permanently," said Troy Newman, the group's president, "in order to protect women."

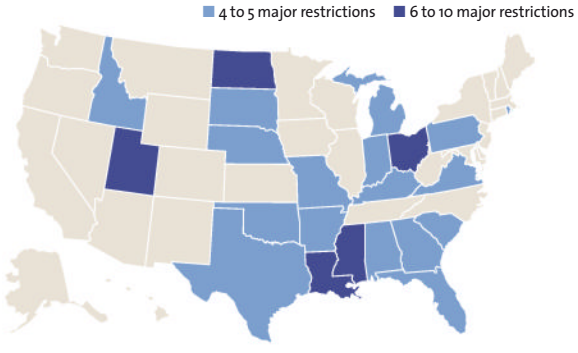
Scenes from a Whole Woman's Health facility in San Antonio (upper left) and a Northland Family Planning clinic in Detroit

The extra time and money involved has skewed the patient population toward women who are white, educated, and insured, says Ushma Upadhyay, a researcher for the UC-San Francisco project who has been studying Ohio. Also, as a result of these new requirements, the number of medication abortions has plummeted. One group of Ohio clinics Upadhyay looked at provided 2,172 medication abortions the year before the law went into effect. In the three years after, the same clinics provided on average only 545 a year—a 75 percent drop.

SLIDING BACK TO A PRE-*ROE* WORLD

Conservative victories since 2010 have resulted in harsh abortion laws across the country.

Abortion restrictions in 2010



From 2010 to 2014, states enacted

231

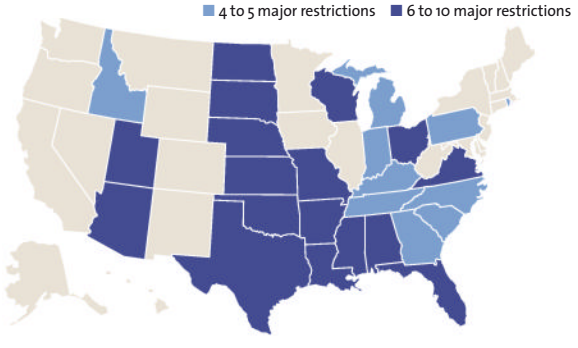
new abortion restrictions.

Abortion clinics have closed at a rate of

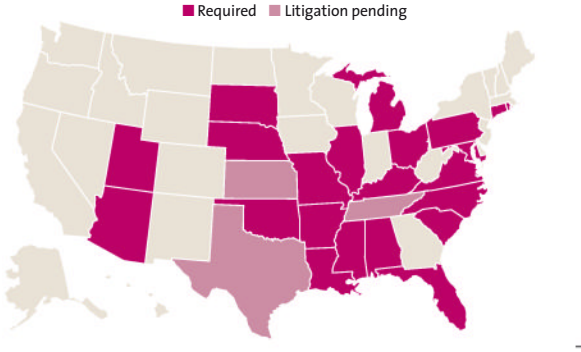
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a week in the last two years.

Abortion restrictions in 2014

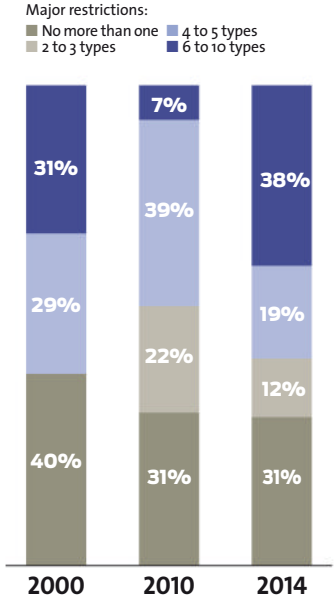


States requiring first-trimester abortion providers to meet ambulatory surgical center rules



UNEQUAL ACCESS

More than half of all US women now face major hurdles if they need to have an abortion.



Source: Guttmacher Institute

IN JUNE 2013, Chelian was at the Center for Choice, an abortion clinic in Toledo, Ohio, on the day that it shut its doors forever. In its 30 years, the clinic had survived fire bombings and aggressive protesters. What finally shuttered it was a new law requiring abortion clinics to enter into a "transfer agreement"—a contract with a local hospital to take any patients having complications. But all of Toledo's hospitals refused to make a deal with the clinic.

"This woman had put her life into this clinic, and everything was in boxes," Chelian said. "All we did was sit around and cry." Women knocked on the door to ask if they could still get an abortion. The phone rang until someone began forwarding the calls to Chelian's Northland clinic an hour away. On the way home, the group stopped to get a stiff drink. It felt like they had just attended a funeral.

At her own clinic, Chelian spends thousands annually on security guards. Recently, a new abortion restriction forced her clinics to pay $25,000 to install seven unnecessary scrub sinks. "We're spending a lot of money to do this," Chelian said. "And we could shut down any minute."

Joffe, the UC-San Francisco researcher, points out that in the past, anti-abortion activists targeted [*continued on page 65*]


"IT IS NEVER THE WRONG TIME TO DO THE NEXT RIGHT THING."
DR. TILLER


EVERY DAY
GOOD
women
HAVE
ABORTIONS
Attention Patients:
Please do NOT throw straws/stirrers into the sink as they have been known to clog the drain. Please throw them into the wastebasket next to the tea cart.
Thank you,
NFP Staff


VAGINA.
Can't say it?
Don't legislate it.
www.aclumich.org
ACLU
AMERICAN CIVIL LIBERTIES UNION of MICHIGAN
THE SUPREME COURT
1985
THE SUPREME COURT
1985
MICHIGAN WOMENS POLITICAL CAUCUS
ANNUAL
MILLIE AWARD
1978
RENEÉ
CHEILIAN
We are in for a very, very long haul...
I am asking for Everything you have to give
We will never give up...
You will lose your Youth, your Sleep,
your Patience, your Sense of Humor
and occasionally... the understanding & support
of people that you Love very much
In Return, I have nothing to offer you but...
Your Pride in being a woman, and
all your Dreams you've ever had for your daughters,
and nieces, and granddaughters...
Your Future
STATE OF MICHIGAN
SPECIAL TRIBUTE
RON DELSENER PRESENTS
IN
"APPEARING NITELY

"Sorry, I'm Not Taking This Test"

By the time she graduates, the average US student has gone through more than 113 standardized tests. This year, **Kiana Hernandez** became one of a growing number of kids saying: Enough.

BY KRISTINA RIZGA

ONE HOT MORNING in May, Kiana Hernandez came to class early. She stood still outside the door, intensely scanning each face in the morning rush of shoulders, hats, and backpacks. She felt anxious. For more than eight months she had been thinking about what she was about to do, but she didn't want it to be a big scene.

As her English teacher approached the door, she blocked him with her petite, slender frame. Then, in a soft voice, she said, "I'm sorry. I'm not going to take the test today." The multiple-choice test that morning was one of 15 that year alone, and she'd found out it would be used primarily as part of her teacher's job evaluation. She'd come into class, she said, but would spend the hour quietly studying.

The teacher stared at her dark-brown eyes in silence while students shuffled past. "That's a mistake," he said with a deep sigh.

By her own estimate, Kiana had spent about three months during each of her four years at University High in Orlando preparing for and taking standardized tests that determined everything from her GPA to her school's fate. "These tests were cutting out class time," she says. "We would stop whatever we were learning to prepare." The spring of her senior year, she says, there were three whole months when she couldn't get access to computers at school (she didn't have one at home) to do homework or fill out college applications. They were always being used for testing.

Kiana had a 2.99 GPA and is heading to Otterbein University in Ohio this fall. She says she did well in regular classroom assignments and quizzes, but struggled with the standardized tests the district and state demanded. "Once you throw out the word 'test,' I freeze," she tells me. "I get anxiety knowing that the tests count more than classwork or schoolwork. It's a make or break kind of thing."

Junior year had been particularly hard. She'd failed the Florida reading test every year since sixth grade and had been placed in remedial classes where she was drilled on basic skills, like reading paragraphs to find the topic sentence and then filling in the right bubbles on a practice test. She didn't get to read whole books like her peers in the regular class or practice her writing, analysis, and debating—skills she would need for the political science degree she dreamed of, or for the school board candidacy that she envisioned. (Sorting students into remedial classes, educational research shows, actually depresses achievement among African American and Latino students in many cases, yet it remains common practice.)

Kiana was living with her mother, and times were tough. Some days there was no food in the house. "The only thing that kept me going to school was my math teacher," Kiana says. "The only place that I felt that I had worth was Mr. Katz's class. That's the thing that kept me going every day."

On the news, Kiana saw pictures of students and parents carrying signs reading "Opt-Out: Boycott Standardized Testing." Her high school didn't have activists like that. In the library, Kiana made flyers that read: "Are you tired of taking time consuming and pointless tests? Boycott Benchmark Testing! When given the test, open the slip and do NOT pick up your pencil. Refuse to feed the system!" She passed them out to her classmates, but they were worried that opting out would hurt their GPAs.

Kiana talked about this with Mr. Katz, who regularly met with students who needed extra help during his lunch hour and after school. One day during their tutoring session, he mentioned Gandhi. Kiana went to the library and found some of Gandhi's essays. She determined that what it took to make change was someone taking a personal stand.

Next, she researched state education rules and discovered that the end-of-course tests that Florida required in every subject were being used primarily for job evaluations. (She says one teacher told her: "Please take [the test]. My paycheck depends on it.")

The English teacher started passing out the computer tablets used to take the test.

PHOTO BY ROBYN TWOMEY



He put one on her desk. Kiana raised her hand. "I'm sorry," she said again. "I'm not going to take this test."

The noise dropped abruptly.

"You should wait until you are done with high school before you try to change the world," the teacher said.

Kiana reached into her backpack and pulled out a notebook to prepare for her psychology final.

CRITICS HAVE LONG warned that a flood of standardized testing is distorting American education. But in recent months, an unprecedented number of students like Kiana, along with teachers and parents across the country, have chosen to take matters into their own hands—by simply refusing to take part.

"This school year saw by far some of the largest numbers of families opting out from standardized tests in history," Bob Schaeffer, director of public education at the advocacy group FairTest.org, told me this spring. In New Jersey, 15 percent of high school students chose not to take state tests in the 2014-15 school year. In New York state, only a few districts reported meeting 95 percent participation, the minimum required by federal rules, according to a *New York Times* investigation. There are opt-out activists in every state, and in Florida—thanks in part to the hardcore pro-testing policies implemented by former Gov. Jeb Bush—the backlash is especially severe.

"Half the counties in Florida have an opt-out group," Cindy Hamilton, a parent and cofounder of Opt Out Orlando, told me. She said her group is not against tests per se, but against the process being taken out of the hands of teachers and schools and turned over to outside vendors. (As NPR's Anya Kamenetz has documented, the testing industry, controlled by a handful of companies such as CBT/McGraw-Hill, Harcourt, and Pearson, has grown from $263 million worth of sales in 1997 to $2 billion.) "Our movement," Hamilton said, "is civil disobedience against the gathering of all of this data by for-profit companies that doesn't help students learn."

Students in American public schools today take more standardized tests than their peers in any other industrialized country. A 2014 survey of 14 large districts by the Center for American Progress found that third- to eighth-graders take 10 standardized tests each year on average, and some take up to 20. By contrast, students in Europe rarely encounter multiple-choice questions in their national assessments and instead write essays that are graded by trained educators. Students in England, New Zealand, and Singapore are also evaluated through projects like presentations, science investigations, and collaborative assignments, designed to both mimic what professionals do in the real world and provide data on what students are learning.

In the past three years, I interviewed hundreds of students across the nation while reporting my book, *Mission High*. In schools both urban and suburban, affluent and struggling, students told me that preparing for such tests cut into things that advanced their education—projects, field trips, and electives like music or computer classes.

"Testing felt like such a waste," Alexia Garcia, a 2013 graduate of Lincoln High in Portland, Oregon, told me. "It felt really irrelevant and disconnected from what we were doing in classes." As a senior, Garcia became a lead organizer with the Portland Student Union, a coalition with members in 12 area high schools that has been one of the most visible student groups in the national student opt-out movement. Garcia, who is now at Vassar College, told me that this year—thanks to the Black Lives Matter movement—students are also increasingly talking about how standardized testing contributes to inequality and ultimately the "school-to-prison pipeline."

Joshua Katz, Kiana Hernandez's math teacher, says he tests his students using a variety of challenges and quizzes, but the only ones that officially count are the fill-in-the-bubble variety. "They tell me I must have data, and they don't consider tests data unless it comes from multiple-choice," Katz told me.

Every nine weeks, Katz has to stop whatever his students are doing and make time for the district's benchmark tests measuring student progress toward the big Common Core exam in the spring. (Proponents of the Common Core standards, now in place in 43 states, promised fewer tests and less of a focus on multiple-choice. But most of the teachers told me there had been no change in the number of standardized assessments. "This year was a circus—16 weeks of testing scheduled at the high school level," Katz said.)

And University High, whose neighborhood and student population is largely middle class, didn't bear as heavy a load of tests and drills as its poorer counterparts: One recent study found that urban high school students spend 266 percent more time taking district-level exams than their suburban counterparts. That's in part because the stakes for these schools are so high: Test scores determine not just how much funding a school will get, but whether it will be allowed to stay open at all. In response, some administrators have been taking desperate measures, including pushing the lowest-performing students out entirely. Suspensions have been growing across the country,

A child entering prekindergarten today will take, on average,

113

standardized assessments

by the time he or she graduates from public school.

Public school students in grades 3 to 8 take an average of

10

standardized tests

per year. In some schools, the number is as high as 20.

In Ohio, students spend nearly

35

hours

per year in standardized tests and practice tests.

especially among African American and Latino students, and many researchers correlate this with pressure to raise scores. And in the 2011-12 school year, the Government Accountability Office reported that officials in 33 states confirmed at least one instance of school staff flat-out cheating.

WITH SO MUCH controversy revolving around the effect of testing on struggling students and schools, it's hard to remember that the movement's original goal was to level the educational playing field. In 1965, as part of the War on Poverty, the Johnson administration sent extra federal funding to low-income schools, and in return asked for data to make sure the money was making an impact. As more states started using standardized tests in the 1970s and 1980s, urban education researchers were able to identify which schools were helping students of color and those from poor families achieve–giving the lie to the idea that these students couldn't succeed.

By the late '80s, many educators were pushing to deploy reliable, external data to measure student progress, a movement that culminated in the bipartisan support for President George W. Bush's No Child Left Behind initiative. With NCLB, states were required to gather and analyze vast amounts of testing data by race, ethnicity, and class. Researchers soon started mining this information, convinced that they could reveal what really worked in education. One 2006 study found that putting students in a top-rated teacher's class raised average scores by 5 percentage points. Another connected increases in test scores to higher earning levels, lower pregnancy rates, and higher college acceptance rates.

Findings like this encouraged two major beliefs in policy circles: First, that test scores were a key factor in how students would do later in life. And second, that the best way to improve teaching was to reward the top performers and fire the bottom ones, based in large part on their students' scores. High-profile charter schools like KIPP and Uncommon Schools, whose model relied in part on avoiding teacher tenure, helped cement that belief.

By 2009, President Barack Obama used his Race to the Top initiative to promote using test scores to hire, fire, and compensate teachers. Today, 35 states require teacher evaluations to include these scores as a factor–and many states have introduced new tests just for this purpose. Until this year, Florida used end-of-course tests in virtually every subject to give bonuses to some teachers and punish others. When Kiana's math teacher, Joshua Katz, was downgraded to "effective" from "highly effective" this year, his salary was slated to drop by $1,100.

But while using student test scores to rate teachers may seem intuitive, researchers say it actually flies in the face of the evidence: Decades of data indicates that better results come not from hiring innately better teachers, but from helping them improve through constant training and feedback. Perhaps that's why no other nation in the world uses annual, standardized tests to set teacher salaries. (Other countries use test scores to push teachers to improve, but not to punish them.)

Nor do other developed nations have such a drastic gap in funding between rich and poor schools. Mission High School in San Francisco, for example, spends $9,780 per student, while schools in Palo Alto, just 30 miles away, spend $14,995. New York spends $19,818 per student, California just $9,220. The per student funding gap between rich and poor schools nationwide has grown 44 percent in the last decade–even as the number of needy students has grown. In 2013, for the first time in at least 50 years, a majority of US public school students came from low-income families.

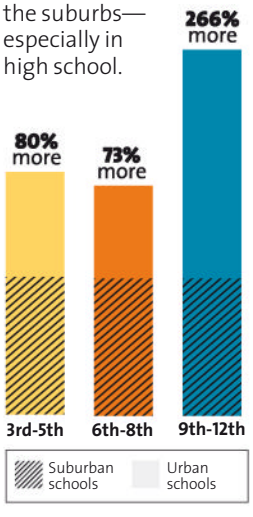
All this presents a significant risk for a country that has relied on schools as the primary avenue for social mobility. Prudence L. Carter, a professor in the school of education at Stanford University, says in fact, kids have very different opportunities: Affluent students ride through the education system in what amounts to a high-speed elevator supported by well-paid teachers, intellectually challenging classes, and private tutors. Middle-class kids are on an escalator. Their parents may struggle to keep up, but still can access resources to help their children prepare for college. And then there are low-income students like Kiana, who are left running up a staircase with missing steps and no handrails.

When it comes to standardized testing, this means that schools that educate low-income students start out at a disadvantage: They are much more likely to have lower-paid and less-qualified teachers; lack college preparatory classes, books, and supplies; and offer fewer arts and sports programs. When their students don't make it to the same "proficiency" benchmarks on yearly tests as their wealthier counterparts, politicians label them and their teachers as "failing." And that begins a vicious cycle: Struggling students are pushed into remedial classes that zero in on what's measured on the tests, further limiting their opportunities to learn the advanced skills they'll need in college or the workplace.

Average testing hours by grade for students in Ohio:

K	11.3
1st	11.6
2nd	13.6
3rd	28.0
4th	24.0
5th	22.6
6th	22.3
7th	21.1
8th	23.0
9th	20.4
10th	28.4
11th	18.9
12th	12.2
Average:	**19.8**

Urban students spend far more time on district-mandated tests than those in the suburbs—especially in high school.



"What I observed was egregious," Ceresta Smith, a 26-year veteran teacher in Miami and a cofounder of United Opt Out National, told me about a predominantly African American, low-income school where she worked from 2008 to 2010. Some teachers tried to incorporate writing and intellectually engaging readings, she said, but most resorted to remediation of basic skills. "Students are reading random passages and practice picking the correct multiple-choice. It was very separate and unequal."

The proponents of testing-based reform like to argue that–while imperfect–the current approach has been working better than any other, leading

to rising graduation rates and standardized test scores. But as Stanford researcher Linda Darling-Hammond has pointed out, there's a bit of circular logic at work here: A system singularly focused on producing better test scores leads to…better test scores. Meanwhile, though, American students' performance compared to other nations–on tests that measure skills and knowledge more broadly–remained flat or declined between 2000 and 2012.

Most importantly, test-based accountability is failing on its most important mandate–eliminating the achievement gap between different groups of students. While racial gaps have narrowed slightly since 2001, they remain stubbornly large. The gaps in math and reading for African American and Latino students shrank far more dramatically before No Child Left Behind–when policies focused on equalizing funding and school integration, rather than on test scores. In the 1970s and '80s, the achievement gap between black and white 13-year-olds was cut roughly in half nationwide. In the mid-'70s, the rates at which white, black, and Latino graduates attended college reached parity for the first and only time.

In the decades since, the encouraging news is that the black-white achievement gap has kept slowly shrinking. But at the same time, the gap between students from poor and affluent families has widened into a chasm, growing by 40 percent between 1985 and 2001. Sean Reardon, a Stanford professor who focuses on poverty and inequality in education, says this is not surprising–affluent families can spend more than ever on enrichment activities. He argues it's up to government to level the playing field, by making sure low-income students get the opportunity to succeed. But in many places, government is instead pulling back from the civil rights era's focus on educational inequality.

Today, many students of color are once again going to segregated, high-poverty schools that struggle to offer advanced classes and attract teachers and counselors. Some 40 percent of black and Latino students now are in schools at which 90 to 100 percent of the student body are kids of color.

TO BE SURE, the test-based reform movement still has powerful proponents–politicians like Jeb Bush and Secretary of Education Arne Duncan, philanthropists like Bill Gates, some teachers, and prominent civil rights organizations such as the NAACP and National Council of La Raza. "For the civil rights community, data provide the power to advocate for greater equality under the law," a coalition of 12 groups argued in a recent joint statement criticizing the opt-out movement. "We cannot fix what we cannot measure." Some teachers I spoke to echoed that message: Lauren Fine, an elementary-school teacher in Denver, believes that without the standards and annual assessments, we won't be able to maintain "a high bar for every student." President Barack Obama agrees with this line of reasoning and recently said that as Congress debates rewriting the No Child Left Behind law, he won't sign any bills that don't include requirements for annual testing, accountability, and state interventions.

Teachers in schools with the highest share of black and Latino students are paid roughly

$2,000

less than those with the lowest share of such students in the same district.

Black students are more than

4 TIMES

as likely as white students to attend schools where less than 80 percent of teachers are fully certified.

But a growing list of others, from the students and parents in the opt-out movement to youth and labor groups and education researchers, are arguing that the push for standardized testing has in fact exacerbated inequities. Journey for Justice is a coalition of grassroots youth and parent groups in 21 cities. "Our concern is that the people who are most directly impacted by these education policies are never consulted," director Jitu Brown told me.

Brown, who saw firsthand the impact of the recent closures of 50 low-scoring schools in his native Chicago, says politicians should look at the real world rather than listening to "education entrepreneurs who are implementing mediocre interventions in our communities." In Chicago, he notes, "you had young people being displaced as the one stable institution in our community was eliminated. You had the massive firing of black teachers, as if they were the problem–when equity never existed."

SO ASSUME FOR A moment that the opt-outers succeed: We'd still need ways to improve teaching, assess what students are learning, and reduce the achievement gaps. How should that happen instead?

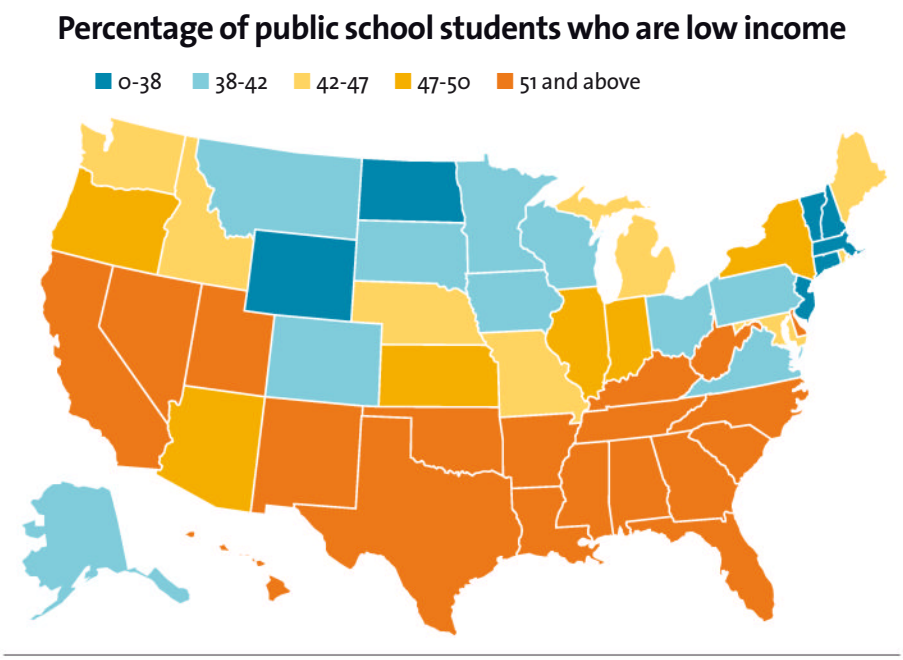
I found some answers as I spent two years in classrooms with Pirette McKamey, a highly respected teacher at Mission High, and Ajanee Greene, a bright, resilient senior who had just finished a powerful 10-page research paper–even though, as a freshman, she got a D in English at her old school. As I watched McKamey and her colleagues design lesson plans and pore over Ajanee's writing together, I realized that a focus on accountability doesn't have to sacrifice teachers' growth or students' love of learning.

One winter morning in 2013, McKamey and seven other teachers sat in an empty classroom at Mission High. A light February rain drummed against the windows as Shideh Etaat passed around roasted almonds and talked about her weekend plans. The teachers had convened for one of their three weekly planning hours. This one was dedicated to in-depth case studies of individual students' math worksheets, essay drafts, and written notes for science lab investigations.

Etaat, a first-year English teacher, had brought in a poem written by a junior named Jay, who came to California from Thailand two years ago. "Jay is that student who will say, 'Oh, I don't write poetry. I'm not creative,'" Etaat said. "But I find that English learners are able to see outside of the box. They have an ability to play with language in this really creative way."

Etaat explained that she'd given her students photos of five different pairs of shoes. She'd asked them to pick a pair they would not wear, and to create a character to go with them. She passed out the "scaffolding" documentation for her lesson–directions for how

Data sourcing at *motherjones.com/testing*. Research compiled by Gregory Barber.



to develop a character, some sample stanzas, a poem she had written herself based on the assignment. Educational theorists call this teaching in the "zone of proximal development": that place where we can't progress by ourselves, but we can with targeted assistance and constructive feedback.

The wind whistled through the old window frames as the teachers read Jay's poem.

My shoes look like a pair of cheap running shoes
Full of sweat and heat
In his shoes, he works hard every day
He sees himself working in the mud
And sleeping on the street with other hobos
In my shoes, I see a student running in the hallway
Trying to get his lunch as early as possible
In his shoes, he hears the heavy metal noise of his hammer
Striking at that thick jet black rock until it resolves
In my shoes, I hear the noisy noise coming out of the classroom
The sound of electronic devices and ceaseless hip hop music
In his shoes, he feels pain coming from his body,
The pain of loneliness and betrayal…

"It's very hard to scaffold creativity just right," said Dayna Soares, a second-year math teacher. "Sometimes teachers give you a blank paper and that's too much freedom. I'm always struggling with this—how can I give my students just enough structure, but in a way that doesn't make them fill in the blanks?"

They talked about the craft of grading and commenting on student work. When teachers provide feedback on writing, research shows, many default to a "what's wrong with this paper" strategy, instead of writing responses that promote growth. "Every time a student does an assignment, they are communicating something about their thinking," McKamey told the group. "And even if it's far away from what I thought they'd do, they are still communicating the ways they are putting the pieces together. There are so many opportunities to miss certain students and not see them, not hear them, shut them down. It takes a lot of skill, experience, and patience not to do that." Looking over multiple-choice questions doesn't help teachers detect these signals, McKamey told me, because they won't tell you where and why someone got stuck.

In other words: It's not just students who miss out on a chance to learn when standardized tests set the pace. Teachers, too, lose opportunities to improve their craft and professional judgment—for example, detecting where their students' thinking hits what McKamey calls a "knot" and figuring out how they can improve. That's when many fall back on the only available option: repetitive instruction, more testing, and remediation.

What's essential for teachers to grow, McKamey told me, is collaboration with fellow professionals—and that mutual accountability, she said, is more effective than test scores or even financial bonuses. "What teachers care about," she said, "is the feedback they get from students, parents, and peers they respect."

Max Anders, a first-year English teacher, told me that working with McKamey helped him learn how to teach every student individually. "My understanding before was you give work for the middle," explained Anders, who was teaching Plato's "The Allegory of the Cave" at the time. "But the best approach is to give rigorous work that challenges everyone and learn how to break it up and scaffold it just right."

MCKAMEY'S SMALL, SUNLIT office is lined with binders filled with the lesson plans she has built up over the last 27 years of teaching, including one for Tim O'Brien's Vietnam War memoir, *The Things They Carried*. Every year she teaches the novel, McKamey adds material to the binder, because she learns new things from her students and colleagues each time. Underneath her heavy desk, three pairs of shoes sit neatly lined up: black loafers and Mary Janes for teaching and coaching, light-gray sneakers for dance class after school.

I talked to Ajanee Greene in that office one afternoon. Independent and astute, Ajanee wrote the strongest research papers in the English classes I'd been observing. She was about to become the first in her family to graduate from high school and had started filling out college applications.

From the moment she stepped into McKamey's classroom, Ajanee told me, she started to feel like an intelligent person. "By middle school, I could tell which teacher is looking at my grades and test scores and is just teaching me basics without opportunities to challenge myself. Just because I struggle with some grammar rules doesn't mean I can't think deeply. Ms. McKamey believed in me and then pushed me to work really, really hard."

Ajanee and McKamey had just finished their lunch meeting, an occasional check-in to talk about life and school. As McKamey left for a meeting, Ajanee told me that she'd chosen the topic for her paper—titled "Black on Black Violence: Why We Do This to Ourselves"—because she'd lost her stepfather and several close friends to gun violence.

For the paper, Ajanee had read and analyzed about 20 articles [*continued on page 62*]



HOW WILD WERE THE SECRET NEGOTIATIONS THAT LED TO A REVOLUTION IN OUR RELATIONSHIP WITH CUBA? LET'S JUST SAY THEY INVOLVED THE POPE AND ARTIFICIAL INSEMINATION.

ON A RAINY DAY last December, President Barack Obama gathered a small group of senior officials in the Oval Office and placed a telephone call to Raúl Castro. Sitting on a couch to Obama's left were National Security Council aides Benjamin Rhodes and Ricardo Zuniga, personal emissaries whose 18 months of secret negotiations were about to culminate in the first substantive conversation between the presidents of the United States and Cuba in more than half a century.

Obama later told reporters that he'd apologized to Castro for talking for such a long time. "Don't worry about it, Mr. President," Castro responded. "You're still a young man and have still the time to break Fidel's record–he once spoke seven hours straight." After Castro finished his own lengthy opening statement, Obama joked, "Obviously, it runs in the family."

Despite the levity, both leaders understood the seriousness of their 45-minute conversation. "There was," one White House official recalled, "a sense of history in that room."

At noon the next day, the two presidents stunned the world when they simultaneously announced the dramatic breakthrough. Obama repudiated 55 years of US efforts to roll back the Cuban revolution, declaring that peaceful coexistence made more sense than perpetual antagonism. Both leaders described a prisoner exchange that had occurred earlier that morning. For "humanitarian reasons," Cuba had released Alan Gross, incarcerated since December 2009 for setting up illicit satellite communications networks as part of a US Agency for International Development (USAID) "democracy promotion" program. Cuba also released Rolando Sarraff Trujillo, a CIA spy whom Obama called "one of the most important intelligence agents that the United States has ever had in Cuba." In return, Obama commuted the sentences of the last three members of the "Cuban Five" spy ring–Gerardo Hernández, Antonio Guerrero, and Ramón Labañino–imprisoned for 16 years after they were caught infiltrating anti-Castro Cuban American groups and providing information that (the United States claimed) allowed Cuba to shoot down two planes flown into its airspace by an exile group, killing four Cuban Americans. (The other two members of the Cuban Five had been released earlier, having completed their sentences.)

But the prisoner exchange was only the beginning. Obama promised to loosen restrictions on travel and trade, and authorize telecommunications companies to bring internet services to the island. For its part, Cuba pledged to release 53 political prisoners and engage with the International Red Cross and United Nations on human rights and prison conditions. Most importantly, the two presidents agreed to reestablish diplomatic relations. On July 20, Cuba's foreign minister, Bruno Rodríguez, traveled to Washington to raise the Cuban flag over the former embassy on 16th Street; soon thereafter Secretary of State John Kerry was due to travel to Havana to reopen our embassy in the sleek, modernist structure built for that purpose in 1953.

What brought about this radical change was a unique alignment of political stars: a shift in public opinion, particularly among Cuban Americans; a transition in Cuban leadership from Fidel to Raúl, followed by Cuba's slow but steady evolution toward a market socialist economy; and Latin American leaders no longer willing to accept Cuba's exclusion from regional affairs. Seizing the opportunity were a handful of dedicated US legislators, well-financed lobbyists, Alan Gross' aggressive legal team, an activist pope from Latin America, and a woman hell-bent on getting pregnant.

But one factor trumped the rest: Obama's determination. He was, one top aide recalls, "a president who really wanted to do it."

GLUEKIT

BY PETER KORNBLUH AND WILLIAM M. LEOGRANDE

★ALL THE PRESIDENT'S MEN★

Obama's push to break "the shackles of the past" began shortly after his reelection, when, according to one aide, he "told us we needed to design a play to run with Cuba." By April 2013, Obama had chosen Rhodes and Zuniga to lead the negotiations. Rhodes had joined Obama's 2008 campaign as a speechwriter and was personally close to the president. "All it takes is one Google search for these guys to know that Ben speaks to the president, and has daily access, and can be a trusted back channel," explained a former White House official. Zuniga, meanwhile, had served in the US Interests Section in Havana (the embassy stand-in) and as the State Department's acting coordinator for Cuban affairs.

Over the next 18 months, the two men met nine times with a small team of Cuban officials in various locales, from Ottawa to Rome. From the start, it was clear that before any discussion of normalizing relations could occur, both countries wanted their imprisoned citizens released.

It was a touchy subject, but one we learned had already been broached following the devastating 2010 earthquake in Haiti, which led to unprecedented US-Cuban cooperation on disaster relief. Over the next two years, two top State Department officials–Hillary Clinton's chief of staff, Cheryl Mills, and Deputy Assistant Secretary for Western Hemisphere Affairs Julissa Reynoso–secretly negotiated with Cuban officials in Creole restaurants in Port-au-Prince, subterranean bars on Manhattan's East Side, and a hotel lounge in Santo Domingo. US officials focused on freeing Gross, while the Cubans requested that the wives of Cuban spies Hernández and René González be allowed to visit their husbands in jail. (These women's visas had previously been denied because they too were suspected of being covert agents.) The Cuban position "started with 'Treat our guys better,'" says a US official with knowledge of the talks, and evolved into "'We want them all home.'" By September 2011, the Cubans had explicitly proposed swapping the Cuban Five for Alan Gross.

But US officials believed that such a direct exchange would be politically toxic. Instead, they hoped their growing rapport would convince the Cubans to free Gross. As a show of good faith, they arranged for the wives of Hernández and González to secretly visit them. In exchange, the Cubans permitted Judy Gross regular visits with her husband, held in a military hospital in Havana.

"We thought this would lead to the release of Alan Gross," one US official recalls. But the Cubans continued to hold out for the swap, even as the parole dates for two of their five spies neared. Eventually US negotiators realized their strategy was doomed. In May 2012, Clinton received a memo from her team that stated: "We have to continue negotiating with the Cubans on the release of Alan Gross but cannot allow his situation to block an advance of bilateral relations... The Cubans are not going to budge. We either deal with the Cuban Five or cordon those two issues off."

The memo hit at an opportune time. Clinton and Obama had just returned from the Sixth Summit of the Americas, where they'd been chastised by heads of states furious over the US stance on Cuba. "It was clearly an irritant and a drag on our policy in the region," says Roberta S. Jacobson, assistant secretary of state for Western Hemisphere affairs.

Clinton had previously pushed the White House to liberalize regulations on educational travel to Cuba, finally going directly to the president to bypass White House aides worried about political fallout. In the wake of the summit debacle, she instructed her deputy to assemble what one adviser called "the full monty" of potential actions to change Cuba policy. "I recommended to President Obama that he take another look at our embargo," Clinton recalls in her memoir. "It wasn't achieving its goals and it was holding back our broader agenda across Latin America."

Following his reelection, Obama approached Massachusetts Sen. John Kerry about replacing Clinton as secretary of state–and immediately raised the prospect of a new approach to Cuba. Kerry was receptive. As chairman of the Senate Foreign Relations Committee, he'd been a vocal critic of the USAID democracy promotion programs that financed Gross' secret missions to Cuba. Kerry had also long opposed the US economic embargo, and played a key role in normalizing relations with Vietnam–a triumph he hoped to repeat with Cuba.

Still, when a new round of secret talks began in June 2013, Kerry was not privy to them. Only a handful of US officials knew, among them Vice President Joe Biden, White House chief of staff Denis McDonough, and National Security Advisor Susan Rice. No one at the Pentagon was "read in." Although Kerry was eventually brought into the loop, "we kept it fairly tight on our side, and the Cubans, I think, did the same on their side," a senior US official said.

MIAMI NICE?

Florida's power brokers mellow on Cuba.

For decades, Florida's Cuban exile community has ensured that the United States maintained its tough policy toward the island nation. From Miami, these fierce opponents of Fidel Castro plotted to overthrow the Cuban dictator and channeled funds to dissidents. This made them logical allies of communism-denouncing Republicans, and the exile community's wealth and political savvy made it a crucial voting bloc, not to be crossed by either party, in a state that can decide presidential elections. But attitudes have shifted. The embargo doesn't hold the same importance for younger Cubans and those who left Cuba for economic reasons. The major players now fall into three categories: hardliners who continue to oppose any change in policy until the Castros are out of power; reformers who have long pushed for normalization; and converts whose views have softened.

THE HARDLINERS

Sen. Marco Rubio, though his parents came to Florida before the Cuban Revolution, has made anti-Castro opposition central to his political career. He vows to roll back Obama's efforts to normalize relations once he is in the White House.

Jeb Bush, whose political roots lie in Miami's Cuban exile community, has called Obama's policy a "tragedy." But his opposition has been less aggressive than Rubio's, a reflection of changing attitudes in Florida and disagreement among his own advisers.

Rep. Ileana Ros-Lehtinen, who fled Havana when she was eight, began her political career in the Florida Legislature in 1982, when a tough position on Cuba was a political necessity. The Republican has slammed normalization with Cuba as a "propaganda coup for the Castro brothers."

Rep. Mario Diaz-Balart, another Republican, hails from a powerful Miami family—his father was a Cuban politician before Fidel Castro seized power, and his aunt was Fidel's first wife. A member of the House appropriations committee, he has tried to undermine Obama's policy by attaching riders to spending bills—including a provision blocking flights and cruise ship routes to Cuba.

Gus Machado, a wealthy Miami auto dealer and Republican

PREVIOUS SPREAD: LEAHY: CHRISTY BOWE/GLOBE PHOTOS/ZUMA, CLINTON: I.E. BASKOW/REUTERS, KERRY: ARTPIX/ALAMY, OBAMA: GARY CAMERON/REUTERS, POPE/CASTRO: VATICAN POOL/GETTY

"We didn't want any wrench to be thrown in the gears that could complicate attempts to secure Alan Gross' release."

"LOOK, I WASN'T EVEN BORN WHEN THIS POLICY WAS PUT IN PLACE," HE TOLD THE CUBANS. "WE WANT TO HEAR AND TALK ABOUT THE FUTURE."

The effort at secrecy was aided by Canada, which allowed the two sides to meet in Ottawa and later Toronto. The Cubans' top priority was still getting their spies back—particularly Gerardo Hernández, who, as the ringleader of the Cuban Five and the broader crew of spies known as the "Wasp Network," was serving two life sentences. Zuniga and Rhodes came to the table with a more fluid approach. "We had no fixed vision of what an agreement would be," recalls a White House official knowledgeable about the talks. Instead, they wanted to "try out different formulas" to explore what could be agreed on. "We never went in thinking there would be a grand bargain."

But politically the White House was in a tricky spot. If all that came out of the talks was a prisoner exchange and a few travel and trade tweaks, Obama's initiative would not register as a serious policy change. Lifting the embargo was in Congress' hands, but restoring diplomatic ties was the one dramatic action he could take unilaterally.

During the first negotiating sessions, the US team had to listen to the Cubans recite the long history of US depredations against the island, starting with the Spanish-American War in 1898. To old hands, it was the requisite throat-clearing to be endured before getting down to real business. But Rhodes had no prior dealings with Cuba and at one point interrupted the diatribe. "Look, I wasn't even born when this policy was put in place," he told the Cubans. "We want to hear and talk about *the future*."

Historical disagreements were only the beginning. The US team wasn't willing to talk about the USAID programs or Guantánamo; the Cubans weren't willing to discuss human rights or US fugitives hiding in their country. "There were a lot of dry wells for us and for them," according to a White House official. Both sides *were* eager to talk about the prisoners, but a straight-up trade—Gross for the three remaining members of the Cuban Five—was still a nonstarter for the White House. The president had said repeatedly that Gross had done nothing wrong, was not a spy, and therefore could not be exchanged for spies. In the administration's public portrayal of Gross, he was just a development specialist attempting to bring internet access to Cuba's small Jewish community. To the Cubans, Gross was a covert operative engaged in a program to subvert their government, and the Cuban Five were patriots protecting their country against the far-right zealots of Little Havana.

To break the deadlock, the US negotiators raised the case of Rolando Sarraff Trujillo, who'd been a top CIA mole inside Cuban intelligence until his arrest in the mid-1990s. Sarraff had provided the United States with information that led to the prosecution of many Cuban spies, including Ana Montes, the Defense Intelligence Agency's top Cuba specialist; State Department employee Walter Kendall Myers and his wife, Gwendolyn; and the Wasp Network—including the Cuban Five.

During negotiations in Toronto in January 2014, the Americans suggested that if the ailing Gross were released on humanitarian grounds, they would swap the three Cuban spies for Sarraff. But the Cubans did not want to give up Sarraff—a double agent they considered so treacherous they'd held him in solitary for 18 years.

Negotiations got even pricklier in May 2014, when the Obama administration announced it was swapping five Taliban leaders held at Guantánamo for Sgt. Bowe Bergdahl, a US soldier captured and imprisoned by the Taliban since 2009. The political uproar in Congress and the media was intense, especially after Bergdahl was reported to have deserted his post. From the US perspective, this made a similar trade with Cuba completely out of the question. The Cubans, however, figured that since Washington had traded five Taliban combatants for one US soldier, the White House would eventually agree to trade their three spies for Alan Gross.

donor, is the treasurer of the US-Cuba Democracy PAC, the main political advocacy group opposing normalization.
Remedios Diaz-Oliver, the Miami-based CEO of a major plastic container company and a board member of that PAC, has called Obama's policy of normalization "Bay of Pigs II."
Mel Martinez, a former GOP senator from Florida who fled Cuba as a teenager, supported Obama's 2009 decision to lift travel restrictions for people visiting relatives in Cuba, but he has blasted the president's decision to normalize relations.
Al Cardenas, the former head of the Florida GOP, is now a lobbyist and adviser to Jeb Bush. His opposition to normalizing relations has put him at odds with others in Bush's inner circle.

THE REFORMERS

Ricardo Herrero, the onetime executive director of the Miami-Dade Democratic Party, cofounded #CubaNow in 2014 to pressure the White House to normalize relations with Cuba—part of a lobbying campaign spearheaded by the Trimpa Group.
Mike Fernandez, a Cuban exile billionaire, is a big GOP donor and an ally of the Bush clan. But on Cuba, he's in Obama's corner. "I am not a fan of President Obama, but after 50-plus years, this is long overdue."
Manny Diaz, a lawyer who was born in Cuba, rose to prominence representing the Miami relatives of Elián González, thereafter becoming the city's mayor.
Jorge Pérez, Florida's "Condo King," supports lifting the embargo and says doing so may lead to a real estate boom on the island: "Demand for second homes will be much bigger than the Bahamas, Puerto Rico, or Dominican Republic."

THE CONVERTS

Carlos Saladrigas, a Miami millionaire who was once a fierce advocate of the embargo, now says the old policy has held the Cuban people back. In 2000, he cofounded the Cuba Study Group, an organization of Cuban business leaders to promote engagement.
Carlos Gutierrez, who fled Cuba as a child, was George W. Bush's commerce secretary and is now a Jeb supporter. Gutierrez recently embraced normalization, penning a *New York Times* op-ed titled, "A Republican Case for Obama's Cuba Policy."
Alfonso Fanjul leads a vast sugar and real estate empire with his brothers. For decades they bankrolled anti-Castro efforts. But Alfonso shocked the exile community last year when he said he was open to doing business in Cuba. His brother Andres has also mellowed, and is on the board of the Cuba Study Group, which calls for normalization. Meanwhile, his brother Pepe, a major GOP donor, has not joined his brothers in calling for change. ***—Pema Levy***

It took months of negotiations for US diplomats to convince the Cubans that the only exchange the White House could abide would be trading spies for spies, namely the Cuban agents for Sarraff. Finally the Cubans relented, and talks turned to what one US official describes as "a bigger package"–including the restoration of full diplomatic relations.

★A TICKING TIME BOMB★

In defending the Bergdahl deal, Obama officials cited intelligence indicating his mental and physical health were deteriorating after five years of captivity. They faced a similarly dire situation with Alan Gross. More than four years after being arrested, Gross was despondent over the administration's inability to obtain his freedom. At one point he lost more than 100 pounds. By December 2013, when the coauthor of this article, Peter Kornbluh, visited him in the military hospital where he was held, he seemed determined to get out on his own–dead or alive. "I'm a ticking time bomb. Tick. Tick. Tick," Gross warned during the three-hour visit, in which he alluded to a plan to break down the "flimsy" door of his cell and challenge the heavily armed guards on the other side. A few months later, in April 2014, Gross went on a nine-day hunger strike. On his 65th birthday on May 2, he announced it would be the last he would spend in a Cuban jail.

When Gross' terminally ill, 92-year-old mother, Evelyn, took a severe turn for the worse in late May, negotiations became urgent. Meeting in Ottawa in early June, the Cubans pushed for a quick prisoner trade, expressing their fear that Gross would kill himself when his mother passed away. US officials, meanwhile, worried that if Gross died in a Cuban prison, a change in US policy would become politically impossible.

Kerry reached out to Cuban foreign minister Bruno Rodríguez and proposed a "furlough" to the United States–Gross would wear an electronic bracelet to allow the Cubans to monitor his movements, and he would return to prison after his mother's death. "Alan promised unequivocally that he would return to incarceration in Cuba after visiting his mother at the hospital in Texas," his lawyer Scott Gilbert recalls, "and I offered to take his place until he returned. That is how important this was."



Gerardo Hernández and his daughter, Gema

But the Cubans considered the plan too risky. After Evelyn Gross died on June 18, 2014, Kerry warned Rodríguez that if any harm came to Gross while in Cuba's custody, the opportunity for better relations would be lost.

Gross was in "a difficult state of mind," Gilbert recalls. As the summer progressed, he refused to meet with officials from the US Interests Section who routinely brought him care packages, and he told his wife and daughter that unless he was released soon, he'd never see them again. His lifeline was Gilbert, who pressed the Cubans to allow him to speak to Gross every day, and who traveled to Cuba 20 times to sustain his client's morale.

★STORK DIPLOMACY★

Gross was also taking regular calls from Tim Rieser, a top aide to Sen. Patrick Leahy (D-Vt.). Rieser was instrumental in securing better conditions for Gross in return for one of the more unusual confidence-building measures in the annals of diplomacy–a long-distance effort to impregnate the wife of Gerardo Hernández, the jailed Cuban spymaster.

This idea was first conceived in early 2011, when the head of Cuba's Interests Section in Washington met with the State Department's Julissa Reynoso to deliver a diplomatic note stating that Cuba did not see "any solution" to the incarceration of Hernández and that his wife, Adriana Pérez, was nearing the age of 40. Cuba sought US support to "facilitate" her ability to get pregnant.

After what she calls a "sensitive" meeting on the matter, Reynoso explored the possibility of a secret conjugal visit between Pérez and her husband, but efforts to arrange such a rendezvous "fizzled out" due to Bureau of Prisons regulations. Two years later, in February 2013, Pérez met with Leahy, who was visiting Cuba with his wife, Marcelle. In a Havana hotel room, Pérez made an impassioned appeal to the Leahys to help her find a way to have a child with her husband, who had been in jail for 15 years. "It was an emotional meeting," Leahy remembers. "She made a personal appeal to Marcelle. She was afraid that she would never have the chance to have a child. As parents and grandparents, we both wanted to try to help her. It was a human thing. It had nothing to do with the politics of the two countries." But it would.

Leahy asked Rieser to find a solution. A conjugal visit was a nonstarter, but there was precedent for allowing an inmate to provide sperm for artificial insemination. Eventually, Rieser secured approval and the Cubans flew Pérez to a fertility clinic in Panama.

Meanwhile, Rieser was pressing the Cubans to improve the conditions for Gross: "I wanted to make clear to them that we cared about the treatment of their people, just as we expected them to care about the treatment of ours." The Cubans reciprocated, permitting Gross to be examined by his own doctors, giving him a computer and printer, and allowing him more outdoor exercise.

As Pérez's pregnancy became obvious, the State Department asked the Cubans to keep her out of the public eye, lest her condition stir speculation that a US-Cuban rapprochement was in the works. "We had given our word to keep the pregnancy and all of the process around it a secret in order not to prejudice the greater objective, which was our freedom," Hernández later explained. When he landed in Cuba, state television showed him being greeted by Raúl Castro and, to the astonishment of his countrymen, a nine-months-pregnant wife.

A CONJUGAL VISIT WAS A NON-STARTER, BUT THERE WAS PRECEDENT FOR ARTIFICIAL INSEMINATION.

ESTUDIO REVOLUCIÓN

Three weeks later, on January 6, 2015, their baby girl, Gema Hernández Pérez, was born.

★"JUST DO IT!"★

Although Leahy's "stork diplomacy" contributed to the success of the Cuba-US negotiations, even he was unaware of the secret talks underway. Meanwhile, he served as the unofficial leader of a group of senators and representatives who pressed Obama and his aides for change at every opportunity. "All of us had been pushing the president when we saw him at ceremonial functions for a few seconds–telling him, 'You've got to do something on Cuba,'" recalls Rep. Jim McGovern (D-Mass.).

Leahy decided that to get the attention of the president, a former legal scholar, he'd have to flesh out the legal basis to release the Cuban spies. The senator's staff collaborated with former White House counsel Greg Craig to draft a 10-page memo of options "to secure Mr. Gross' release, and in so doing break the logjam and change the course of U.S. policy towards Cuba, which would be widely acclaimed as a major legacy achievement." The document, dated February 7, laid out a course of action that would prove to be a close match with the final accord. "It was a damn good memo," Craig says.

Still, it took until May 1 before Leahy, along with Sens. Carl Levin (D-Mich.) and Dick Durbin (D-Ill.) and Reps. Chris Van Hollen (D-Md.) and McGovern, finally met in the Oval Office with Obama, Biden, and Susan Rice. They urged Obama to press for Gross' release and replace the policy of hostility with one of engagement. "You said you were going to do this," McGovern reminded the president. "Let's just do it!"

"We're working on it," Obama told them, but he gave no hint of the back-channel diplomacy then well underway.

"There was a bit of tension with the president. We're pushing him, and he's pushing back," McGovern recalls. "We were pretty aggressive." At the meeting's end, the members were not very optimistic. "We were not reassured that this was going to happen."

★A NEW NORMAL★

Three days earlier, a series of billboards appeared in the Washington Metro stations nearest to the White House and State Department. "Mr. President, it's time to take action on Cuba policy," read one. Another declared, "The American people are our best ambassadors. It's time to allow all persons to travel freely to Cuba." The ads, which generated significant media buzz, were sponsored by a new advocacy group, #CubaNow, which positioned itself as the voice of the younger, more moderate Cuban American community in Miami.

#CubaNow was the brainchild of the Trimpa Group, an unusual organization that matched deep-pocketed donors seeking to change policy with a political strategy and advocacy campaign. In 2003, for example, founder Ted Trimpa developed a lobbying strategy to mount a marriage-equality movement across the country financed by multimillionaire businessman Tim Gill.

Nine years later, in October 2012, Gill traveled to Cuba on a US-licensed tour with a wealthy friend, Patty Ebrahimi, who was born and raised in Cuba but left with her family a year after Fidel Castro seized power. Ebrahimi chafed under the restrictions of the tour imposed by US Treasury regulations. She couldn't go off on her own to visit the neighborhoods of her youth, track down family friends, or see her old schools. "The idea that I could go anywhere else in the world, including Vietnam, North Korea, or Iran, without special permission from the US government but couldn't go to Cuba without a license angered me," she recalled. As she vented her frustrations to Gill in the lounge of the Saratoga Hotel in Havana, he offered a suggestion: "You should use your money to change the policy." A few months later, he introduced Ebrahimi to Trimpa.

After conducting a three-month survey of the political landscape, the Trimpa Group reported that "the highest level of decision makers within the Obama administration" wanted change–they just needed political reinforcement to push for it. After consulting with her husband, Fred, the former CEO and owner of Quark Software Inc., Patty gave the lobby shop $1 million to finance a campaign to embolden the White House.

"My decision to take up this work was an emotional one," she later said. "We did it because we wanted to help," Fred Ebrahimi noted. "We did it because we thought we could be effective."

The Trimpa Group pulled out all the stops. It counseled Ebrahimi to make donations to key political figures such as Senate Majority Leader Harry Reid (D-Nev.) and Durbin–donations intended to gain access and "be in the room," according to Trimpa's strategic plan. The lobby shop hired Luis Miranda, who had recently left his position as Obama's director of Hispanic media, and sought the blessing of Jim Messina, Obama's deputy chief of staff, to launch a public campaign promoting a change in Cuba policy. The Trimpa team also met with key foreign policy officials. To all the players, the Trimpa Group insisted that there would be no political blowback for Democrats in Florida if Obama changed Cuba policy. To bolster that argument, they financed a series of opinion polls. One, conducted by an Obama pollster, John Anzalone, found that Cuban Americans in Florida–especially the younger generation–favored engagement. And the Atlantic Council conducted a national poll sponsored by Trimpa that found, as a *New York Times* headline would put it, that a "Majority of Americans Favor Ties With Cuba."

The polls were intended to "show broad support for change," "create a new normal," and "give voice to the silent majority," says James Williams, the political operative who oversaw the Trimpa Group's efforts.

Williams also had the support of groups key to the Cuba debate, ranging from funding powerhouses (like Atlantic Philanthropies, the Ford Foundation, and the Christopher Reynolds Foundation) to policy shops (the Washington Office on Latin America, the Center for Democracy in the Americas, and the Latin America Working Group) to elite think tanks (Brookings and the Council of the Americas).

On May 19, 2014, this coalition released an open letter to Obama signed by 46 luminaries of the policy and business world, urging the president to engage with Cuba. The signatories included former diplomats and retired military officers–among them former UN Ambassador Thomas Pickering–and Cuban American business leaders like Andres Fanjul, co-owner of a Florida-based multinational sugar company. But the name that attracted the most attention was John Negroponte, George W. Bush's director of national intelligence.

The same day, not coincidentally, the conservative US Chamber of Commerce announced that its president, Tom Donohue, would lead a delegation to Cuba to "develop a better understanding of the country's current [*continued on page 60*]

Heart of Agave

How a renegade optometrist is defying Big Ag and saving Mexican farms—with the finest tequila you'll ever taste

BY TED GENOWAYS

The Suburban surged and swerved, rattling across potholes and rocketing over heaves in the sun-scorched asphalt. At the wheel, Adolfo Murillo smiled with pride. "This road we're on here," he said, "for years and years and years was never paved." Going back to the 1940s, local politicians had run on promises of laying down tarmac but never made good. The highway was only leveled and tarred about a decade ago, in part to accommodate the truckloads of agaves traveling the 16 miles from Murillo's fields near the dusty village of Agua Negra to the tequila distilleries in Arandas, Jalisco, in central Mexico. Murillo steered with one hand and twisted the cork of a bottle of tequila with the other. The rubber stopper squeaked then popped, like a wet kiss, and the cab instantly filled with the smell of baked agave.

In just eight years on the market, Murillo's brand, Alquimia, has won 35 gold medals in international contests, including best in show for its extra añejo—the classification for tequila aged in an oak barrel for more than three years—at the San Francisco World Spirits Competition in March. The key, Murillo told me, is in the high sugar content of his plants. Many larger distillers have embraced the extra añejo category, because strong oaky flavors can mask poor-quality tequila, but the natural flavor of the plant is overwhelmed. "If you age tequila too aggressively," Murillo told me, "you lose the agave characteristics." To demonstrate the contrast, he poured his añejo into plastic tasting cups perched on the armrest between our seats, somehow topping off each shot as he braked and eased around craters in the blacktop.

PHOTOGRAPHS BY MARY ANNE ANDREI




TEQUILA
Alquimia
AÑEJO

Watching the red-clay hills slip by, I sipped the shot, relaxing a bit into my seat, the rich vegetal sweetness of agave mixing with the smokiness of toasted oak.

The 58-year-old Murillo was born in Agua Negra, where his grandfather was a small-plot farmer, but in 1961 his parents moved their family to Ojai, California, where his father, who later became a US citizen, oversaw a poultry operation. Adolfo returned to his grandparents' farm every few summers, until he went to UC-Santa Barbara to get a bachelor's degree in biological sciences. He got his doctorate in optometry at UC-Berkeley, and on weekends, he and his wife would drive up to the Napa Valley and fantasize about owning a winery. But when his grandmother died, Murillo began to dream of blue agaves instead.

Organic tequilas are a growth market, especially in China, where fears of environmental contaminants run high.

Locals thought he was nuts. Agua Negra is within the official zone for tequila production, but no one had ever tried cultivating agave in this high-desert region. Everyone told Murillo it was too cold, there was too little rain, and the soil wasn't red enough—not enough iron to sustain agave. But Murillo turned to science: He had the soil tested and found that it had a very similar chemical composition to the highly productive fields of Arandas, to the southwest. And because it had been generations since the area around Agua Negra had been used to raise large-scale cash crops, the soil could be quickly restored to its organic state.

"Agriculture in Mexico is very chemical intensive," Murillo said as we arrived at the gate of his ranch. In the early 1970s, when the United States flooded the world market with cheap corn, many Mexican farmers turned to herbicides, fungicides, and insecticides as a way of improving crop yields and staying competitive. But those industrial methods had largely bypassed the small farms of Agua Negra, and Murillo believed that, with a little help from chicken manure and micronutrients, the local dirt could produce a superior agave. Murillo was right. He boasts that his first harvest, in 2000, produced agave hearts with nearly twice the sugar content of other agaves raised around Arandas. Because alcohol is produced by fermenting raw sugars, Murillo's sugar-rich agaves were highly sought-after—especially since many other growers had lost crops to disease and bad weather that year. He found ready buyers among large distillers, like Cazadores and Herradura, but the big tequila companies saw the opportunity. They began leasing land around Agua Negra themselves, planting their own agaves and spraying with fertilizers and pesticides, rather than hiring local workers to tend the fields by hand.

Murillo was determined to show that his organic methods yielded a better product. He started Alquimia (a nod to Paulo Coelho's novel *The Alchemist*, whose protagonist pursues an impossible dream) while still maintaining his optometry business in Oxnard. Now, he jokes, "I help people see twice as well during the week, and then I help them see double on the weekend."

Murillo let the Suburban roll to a stop at the crest of the ridge. Row upon row of blue agaves stretched in all directions, each plant's needle-tipped leaves rising head high. It was the realization of Murillo's dream—but he had bigger ambitions. "I can only do so much on my grandfather's *rancho*," Murillo said, "but if I can recruit my neighbors and they recruit others, then we will have a movement."

Agave-derived alcoholic beverages have been a staple in rural Mexico since pre-Hispanic times, but the plant is notoriously difficult to cultivate at scale. It's vulnerable to weevils, fungi, bacteria, and cold snaps. And unlike the grains used to produce whiskey and vodka, the blue agave typically takes 6 to 10 years to reach maturity, so a single crop loss can set a grower back a decade. When demand for tequila first began to surge worldwide in the late 1960s, Mexico loosened production standards to allow tequila makers to use non-agave sugars—in the process creating the cheap, hangover-inducing classification known as *mixto* that gave tequila a bad name. Still—thanks to Jimmy Buffett, the rise of chain Mexican restaurants and the frozen margarita, and generations of wayward frat boys—demand continued to climb, making brands like Jose Cuervo and Sauza into international powerhouses.

But then in 1989, Patrón changed the game, proving that Americans would pay a higher price for prestige bottles of tequila. Since then, imports of pure agave tequila have doubled—with the greatest leap coming in the super-premium division, where sales of high-end tequilas have increased five times over. The billion-dollar market has become so lucrative that George Clooney, Sean Combs, and Justin Timberlake all have their own brands. And now that the Mexican government has negotiated an end to Beijing's ban on the liquor, it projects 2.6 million gallons—more than $100 million—in sales to China by 2020.

All that growth has pushed growers to plant vast monoculture fields and deploy the products of American agrichemical companies. (It's not unusual to see fields proudly emblazoned with indicators for Monsanto or Pioneer.) But there are signs of change among the big players as well. In 2012, Sauza announced that they would shift their entire top-shelf line, Tres Generaciones, over to organically certified blue agave. I went to their research lab just outside the town of Tequila to meet the company's technical director, José Ignacio del Real Laborde.

Del Real was candid. He said that when Fortune Brands, the owner of Jim Beam and Knob Creek, acquired Sauza in 2005, it almost immediately took a close look at the early success of small organic brands like Alquimia. Fortune concluded that such products represented a growth market, especially in China, where—because of mounting fears about environmental contamination—organic products are prized. Del Real confessed he didn't quite understand why anyone would pay a premium for an organic bottle. Tequila, after all, is a distilled spirit, so all contaminants are pretty well eliminated. And how would something as small as what tequila you drink have much environmental impact? "It's about paying for your sins," he told me, cracking a wry grin. "So someone can drive a big car but still make themselves a friend of the en-

vironment by buying organic tequila?"

Still, del Real went along with the plan. Together with Lois Christie, an organic certification consultant, they scouted fields in the far southern reaches of tequila's required denomination of origin. Agaves had never been grown there before, so it was easier to find clean soil. Del Real, who has a Ph.D. in plant science from Utah State University, developed pesticide-free management techniques, such as pheromone-baited traps for the agave weevil and the use of beneficial insects to reduce fungal infections.

Sauza has since been bought by Japanese liquor giant Suntory, but Christie assures me that it remains committed to maintaining Tres Generaciones as an organic line. And she said she was encouraged to see other distillers beginning to adopt aspects of organic production. In fact, on a recent visit to the palatial Patrón facility in Atotonilco El Alto, I toured a massive plant for composting agave fibers and a state-of-the-art reverse osmosis system that repurposes wastewater for irrigation. But I also saw hillsides all over the highlands covered with tightly packed blue-agave plants and, in between, narrow rows of weed-free red soil—a sure sign of the continuing widespread use of potent herbicides.

This February, back in Agua Negra, it was festival time. In a village where families have been divided between Mexico and the United States since the time of the Cristero War in the 1920s, the annual gathering for fireworks and the rodeo has long been a kind of community-wide family reunion. Adolfo Murillo flew down from California, along with his two daughters, to partake in the festivities.

One evening, waiting outside the church for Mass to let out, Murillo stood in the fluorescent glare of a taco stand, talking to his friend Miguel Hurtado Gallegos. Hurtado grew up in Agua Negra but crossed into California in 1985, where he picked cabbage and spinach in the fields near Oxnard, not far from where Murillo's parents moved after he graduated from high school. Over the years, as Hurtado divided his time between California and Jalisco, he watched the progress of Murillo's organic project—but he wasn't certain that the Murillo in Agua Negra had anything to do with the optometrist he knew in Oxnard. Finally, in 2002, when his son had an eye appointment, Hurtado mentioned that he was from Agua Negra. Murillo eagerly offered to share his methods and even volunteered the services of Luis Guzmán, his ranch manager, in helping Hurtado prepare a small plot of organic agave in Agua Negra. "We wanted our ranch to serve as a classroom," Murillo said.

And not just for agave. Hurtado initially planted five acres of agave but soon turned the improved soil toward raising organic, non-GMO corn and bought cattle to raise on the feed. Murillo has now trained farmers who grow avocados, limes, strawberries, garlic, and chilies. He offered the instruction free, and it came with only one condition: Farmers had to agree to share the methods they have learned with others. As the organic gospel spread, it had another, unexpected side benefit. Hurtado and fellow landowners soon expanded operations and began hiring more workers. The village, once devastated by NAFTA and cheap American corn, now offers good-paying farm jobs, reversing the generation-long flow of young people to the United States.

In 2003, 78 percent of households in Agua Negra had at least one member living in the United States—many in California. The reason was simple: You could earn nearly four times as much in the fields of the Central Valley as in those around Agua Negra. But just as the Great Recession was taking hold in the United States, the communities between Agua Negra and Arandas were beginning to thrive. Damien Cave, reporting for the *New York Times* in 2011, explained simply, "A tequila boom that accelerated through the 1990s created new jobs for farmers cutting agave and for engineers at the stills. Other businesses followed." With increased commerce came electricity and running water in outlying communities, trash collection and poured-concrete roads in Agua Negra, and the blacktop that now connects the town to Arandas. And over that road, a bus, paid for in part by Murillo, now takes teenagers to the high school in the city, which previously had been too far away to attend. The daughter of Murillo's farm manager was one of the first to make that trip; she now works in Agua Negra as a teacher.

On a cloudy morning during the festival, Silviano Alvizo Murillo, a distant cousin to Adolfo, took me out to his agave fields, now planted with close to 100,000 plants. Murillo provided Alvizo with manure to till into the soil, showed him how to space his rows of starter plants, and had his ranch manager apply the organic liquid mixture. Between the wide rows on the flatter parts of his land, Alvizo plants beans and corn; on the rockier spots on steeper slopes, he lets native plants grow high. With agave stretching away to the hillsides in every direction, I couldn't help wondering if he had grander plans. Alvizo smiled and led me up to the house, where he brought out a tiny barrel of tequila—a single batch produced at a local distillery, just enough for parties. But it had gotten Alvizo thinking. Maybe some day he would create his own brand too.

Later, I asked Murillo if he ever worried about fostering his own competition. After all, since he launched Alquimia less than a decade ago, nearly a dozen other certified-organic brands have come on the market and now vie for shelf space in high-end liquor stores and grocery chains like Whole Foods. "Actually," Murillo said, "it would almost be the opposite. Our hope was that this would catch their attention, to maybe do the same thing for their production." After all, for all its momentum, organic tequila makes up a tiny fraction of overall sales.

As the sun set on the final day of the festival, Murillo sat in the courtyard of a small home he owns across the street from the church. The bells were tolling as evening Mass let out and fireworks snapped and blossomed overhead. "Our traditional products of Mexico speak so much about our country and our people," he said, "but the biggest tequila producers are no longer Mexican. And I suppose that's modern economics, but instead of pulling out all your profits and just exploiting people, why not promote education, promote healthier living?"

As I drove out of the village, back toward Arandas, signs of the progress Murillo envisions were all around. Lining either side of the paved road, rows of agave plants, each like a tiny burst of daggers, turned a deeper blue in the gathering dusk. And, now and then, the red-dirt furrows would be replaced by flowering bushes or grass freshly cut by field-workers, the lights of their houses now blinking to life in the darkness. ■

This article was produced in collaboration with FERN, the Food and Environment Reporting Network.

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READY AUTHOR ONE

Geek novelist Ernie Cline was told video games would rot his brain. Just look at him now.

BY MICHAEL MECHANIC

WHEN HE WAS a baby, 43-year-old author Ernie Cline was ripped out of his mother's arms by a tornado, and that's only the third or fourth most exciting thing that's happened to him. He became an unlikely slam poetry champ, for one. Then *Fanboys*, his first original screenplay, was made into a feature film. But Ernie's Big Adventure really kicked off in 2010, when his first novel, *Ready Player One*, sparked a bidding war—enabling him to buy his *Back to the Future* dream car, a 1982 DeLorean. In the crumbling, dystopian future of Cline's best-selling debut, people spend their waking hours plugged into a vast virtual reality called the Oasis—the control of which is left up for grabs by its eccentric creator in a cutthroat scavenger hunt requiring gaming mastery and an encyclopedic knowledge of '70s and '80s pop culture. In Cline's latest book, *Armada*, optioned by Hollywood before a word was written, protagonist Zack Lightman discovers that the video game he excels at has been used to unwittingly train him and others to defend the planet against a real alien invasion. More adventures await: In March, Steven Spielberg signed on to direct the movie version of *Ready Player One*—even though Wade, that book's hero, totally trash-talks *Indiana Jones and the Kingdom of the Crystal Skull*. "I don't know what I was thinking," Cline told me. "Well, I *do* know what I was thinking: There's no way in hell Steven Spielberg is going to read this!"

Mother Jones: Your poetry is hilarious. Have you ever tried stand-up comedy?

Ernie Cline: I did. I discovered that my

JUDE BUFFUM



Lost and Found

The contributions of black chefs were all but ignored until Toni Tipton-Martin came along.

IN 1991, TONI TIPTON-MARTIN was riding high: She had just been named the first black food editor at a big metro daily, Cleveland's *Plain Dealer*. While in Dallas for a conference, she nabbed an invite to a cocktail party at a swank hotel. She approached the venue "really feeling excited and privileged" until "the doors to the ballroom opened—and someone asked me to get them a drink." To some of us, being mistaken for a waitress might seem like a trivial misunderstanding, but for Tipton-Martin it evoked the legacy of black servitude in the United States. She spent the rest of the conference in her hotel room.

Her mortification prompted something positive, though: She began looking into the written history of female African American cooks. It seemed scant at first—the literature on Southern food frequently failed to acknowledge them. Back in the 1800s, for instance, when white women began recording their family food traditions, they took credit for their slaves' handiwork. "You owned Sally, you owned her recipe," Tipton-Martin reflected on an episode of the podcast *Gravy*.

But black chefs eventually began self-publishing their own cookbooks, and Tipton-Martin has collected nearly 300 of them. There's a sophisticated 1930s guide from the Los Angeles Negro Culinary Arts Club featuring new ingredients like oleo/margarine and Jell-O, a book by a radical 1970s chef who espoused using brown and black cookware, and a popular tome by Lena Richard on New Orleans cuisine—which Houghton Mifflin republished in 1940, but removed her name and portrait from the cover.

On the rare occasions that black chefs were credited, Tipton-Martin discovered, they were often portrayed as mammies "working out of a natural instinct or with some kind of voodoo mysterious magic," she told me. Sure, they sometimes relied on quirky methods (measuring out ingredients by comparing their weights to that of an egg or a walnut) and folksy language ("putting vegetables up for the winter," a.k.a. fermenting), but compare their acumen to the requirements of any culinary school syllabus, Tipton-Martin says, and you can start to "see the depth of knowledge" these chefs possessed.

In late 2009, Tipton-Martin's research culminated in *The Jemima Code*, a blog and touring exhibition intended to shine "a spotlight on America's invisible black cooks," many of whom were skilled project managers, entrepreneurs, and creative masterminds. Now she's made *The Jemima Code* the title of an appetizing new book, bursting with illustrations, how-tos, jingles, and rare archival photographs. Tipton-Martin, who's twice been invited to the White House as a guest of the first lady, is already at work on a sequel, a collection of 500 recipes. She calls it *The Joy of African American Cooking*.

—Maddie Oatman

sense of humor didn't work too well with drunk comedy club audiences in Ohio. But something about my weird sense of humor and Austin, Texas, was a great match. I was the Austin slam champion for three years. For a nerdy, kind of socially awkward guy, that did wonders for my self-esteem.

MJ: But you sound so confident on stage.

EC: It's *totally* an act. Like, I don't really breathe. I never had a lot of self-confidence until then, because I grew up with giant Coke-bottle glasses and the same name as a muppet on *Sesame Street*.

MJ: Tell me about the tornado.

EC: It happened in Wheeler, Ohio, in 1973. I don't even think I was a year old. My mother was pregnant. I was sucked out of her arms, and she landed 75 yards away from our trailer and had a ruptured disk. The tornado set me down on top of this pile of corrugated lumber and scrap metal. She climbed up, pulled me off, and with this broken back crawled to a nearby house and gave me to people hiding in the basement. Then she went and tried to find my father and passed out. They had to identify me by my footprints.

MJ: Did your trailer park inspire those high-rise trailer developments in *Ready Player One*?

EC: Growing up in rural Ohio, I knew my way around a double-wide pretty well. The idea of a white trash *Blade Runner*–like, what could be worse than a trailer park? A *stacked* trailer park.

MJ: How did the *Armada* idea occur to you?

EC: From being obsessed with *Star Wars*. From when it came out, in 1977, until 1983 with *Return of the Jedi*–that whole period I went as Luke Skywalker for Halloween. I'd always spent a fair amount of time imagining my version of *Star Wars* or *Ender's Game* or *The Last Starfighter*. But the thing I'm ripping off even more so in my mind is *Iron Eagle*. It's one of those great '80s "kids can do anything" movies like *The Goonies* or *Explorers*. I watched it over and over.

MJ: Your novels are so referential to geek culture that it almost seems fair to describe them as fan fiction.

EC: I wanted to be able to write in the voice that I talk to my friends with and assume that everybody would know what I was talking about. *Fanboys* is about the way that a love of one facet of pop culture can bond you together with your friends. I ended up getting it made into a movie with Princess Leia and Captain Kirk in it. That taught me that there's no geek dream that's too big.

MJ: Still, you must have been blown away by the reception of *Ready Player One*?

EC: Yeah! It's the craziest thing that not just one publisher but *all* of the publishers were interested, and that got all the studios interested. I tell people it's like *An Occurrence at Owl Creek Bridge*, where I've just been making all this shit up in my head–yeah, *sure* you drive a DeLorean and Steven Spielberg is gonna direct your first novel. [*Laughs.*]

MJ: Your protagonists are socially isolated kids with missing or dead parents who find refuge in video games and nerd culture. How does that jibe with your childhood?

EC: Very similar. My brother and I were born to teenage parents and ended up being raised by our grandparents. It was a weird childhood, but not a rough, Oliver Twist childhood by any means. I had plenty of food. I had an Atari. They let movies and television and video games entertain me and my brother, but they also said these things were going to rot your brain. My brother loves to echo that. When I got on the *New York Times* bestseller list or Spielberg announced, he's like, "These video games are going to rot your brain."

MJ: Your characters are smart, but not too into school. What kind of student were you?

EC: Terrible. They recently invited me back to speak at academic scholar night at my high school, and the irony was thick. [*Laughs.*]

MJ: Did you go to college?

EC: I went but dropped out. Which is weird, because in the last two years I've been invited to speak at about 20 colleges. There's always this moment when I'm having dinner with the college president and the provost: "Ernie, where'd you go to school?" I tell them, "I went to Akron University–for a semester." [*Laughs.*] I'm like, "Don't worry, though. I dropped out and went to Alaska to cut fish." I thought I was Jack Kerouac or Jack London. I was just hitchhiking around in the early '90s before I settled in Columbus, Ohio, and got a job at CompuServe. That's why Wade ends up working in tech support in Columbus.

MJ: I hear *Ready Player One* is required reading for employees at Oculus, the virtual reality company.

EC: Is that not crazy? And Spielberg making a *Ready Player One* movie is going to change the course of human history as pertains to how quickly virtual reality is adopted. Which is one of the reasons I think he's doing it.

MJ: So do you actually drive that DeLorean, you know, to the supermarket?

EC: I used to, until it wore off. It draws a crowd stopping to get gas, you know? Cops pull me over just to get a better look. They never give me a ticket, even if I'm speeding, but they will ask to take pictures.

MJ: Your geek-boy protagonists fall for nerd girls who could probably kick their asses at math. Is that your type?

EC: Yeah, I was one of the boys who made passes at girls who wore glasses. In the movies, I liked girls who were fast-talking: *His Girl Friday*, Rosalind Russell. Or Michelle Meyrink, the accordion player in *Revenge of the Nerds*. And my characters are all kind of archetypes of people I've encountered at gaming and comic book conventions.

MJ: So everything was research.

EC: That's the great thing. I've retroactively made all that wasted time rotting my brain into research. It makes me a hypocrite when I try to tell my own daughter, "I don't know, I think we've played a little too much Mario."

MJ: Like, "Who is this person?"

EC: I know. Video games paid for this house. What am I *saying*? Go ahead and keep playing! ■

BOOKS



A Carlin Home Companion
By Kelly Carlin

ST. MARTIN'S PRESS

The late George Carlin was among the world's most revered and subversive comedians, but in this memoir, daughter Kelly Carlin offers a look at a side of her dad we've never seen, from his earliest stand-up routines (on Manhattan stoops at age 11) to his cocaine abuse in the 1970s. She recalls baking "special" spice cake with her dad, and the drug trip that convinced him the sun had exploded, but there are tender bits too–like the time he woke her up to watch the Apollo moon landing or sent her a series of postcards from the road with a single word on each so she could string together the sentences. *A Carlin Home Companion*, which simultaneously documents Kelly's own attempts at self-discovery, is a must for fans who want to understand the legend behind the mic.

—Samantha Michaels

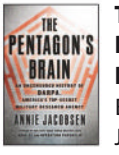


$2.00 a Day
By Kathryn J. Edin and H. Luke Shaefer

HOUGHTON MIFFLIN HARCOURT

Two dollars per person per day is a poverty threshold in the developing world that's rarely evoked when discussing the United States. It should be, say academics Kathryn Edin and H. Luke Shaefer, whose new book documents a troubling rise in the number of Americans–including as many as 3 million kids–who survive on almost nothing. *$2.00 a Day* is an intimate chronicle of the "cashless economy" and also serves as an indictment of the welfare reform that began under President Clinton. Shaefer and Edin–a Johns Hopkins sociologist noted for her "home economics of welfare"–embedded with communities in Cleveland, Chicago, and the Mississippi Delta to learn how the most off-the-radar poor manage without a safety net. They found heartbreaking survival strategies–plasma sales, sugar daddies–and kids in horrible circumstances. With any luck (calling Bernie Sanders) this important book will spark election year debate over how America cares for its most vulnerable.

—Stephanie Mencimer



The Pentagon's Brain
By Annie Jacobsen

LITTLE, BROWN AND COMPANY

Imagine a research incubator that steals ideas from sci-fi novels and movies like *The Terminator* and turns wild theories into technologies far beyond what's commercially available. We're talking, of course, about the Defense Advanced Research Projects Agency, the birthplace of spy satellites and a bomb–"an evil thing"–that could wipe out millions. DARPA's eggheads once even tried to create a literal force field against Soviet warheads; nowadays, envisioning "a mentally and physically superior breed" of warfighters, they tinker with "transhumanism" and cyborg tech. In this fascinating and terrifying account, Annie Jacobsen regales us with the stories behind the agency's "consequential and sometimes Orwellian" innovations, including autonomous weapons systems–killer robots that could decide, without human intervention, who lives and who dies. As Jacobsen ominously puts it, "DARPA creates, DARPA dominates, and when sent to the battlefield, DARPA destroys."

—Bryan Schatz



Legend of the Falls

Amid the disillusionments of the '70s—the Vietnam War, racial strife, Watergate, lines around the block for gasoline—America needed a hero. And many, especially us kids, found one in the motorcycle daredevil Robert "Evel" Knievel. Boy, did my brother and I get amped for his audacious stunts (and epic wipeouts!), from the record-breaking jump over 19 cars at Ontario Motor Speedway to the ludicrous scheme to leap the Snake River Canyon in a star-spangled rocket cycle. Only later did I learn how deeply flawed our fearless showman was. In *Being Evel*, an engaging new documentary, director Daniel Junge supplements a wealth of archival and press footage with recollections from spouses, kin, and business associates—including promoter Sheldon Saltman, whose 1977 memoir of touring with Knievel prompted the incensed stuntman to attack him with a baseball bat. The film gives Knievel his due, but also strips away the layers to reveal a checked-out father, a philandering husband, and a complex American icon whose identity was subsumed by his camera-ready persona. ***—Michael Mechanic***

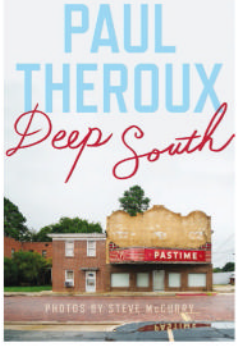
FILM

We Come As Friends

ADELANTE FILMS

Halfway through director Hubert Sauper's latest doc, we meet a woman waiting to vote for South Sudanese independence. "Bye-bye slavery, and welcome to the new state!" she says. But Sauper travels the land in a tiny self-built plane to expose neocolonialism's stubborn stranglehold. In intimate, surreal scenes, he introduces us to Chinese oil workers, a British land mine detonator, drunk UN peacemakers, Texan missionaries, and Western businessmen who have no qualms getting rich off a dirt-poor country. The strongest moments belong to the locals trying to make sense of the incursion. One recalls how Europeans first colonized Africa. "After that they went high into space and took the moon!" he says. "Did you know that the moon belongs to the white man?"

—Luke Whelan



In Greensboro, Alabama, I met Mary Hodge, who showed me around—the library, the town hall, the churches. Mary was a beaming woman of about 60, well dressed in a reddish suit and white blouse, proud of her daughter's recent law degree, eager for me to understand Greensboro, but the mention of the Klan cast a shadow over our talk, as she shook her head slowly.

"They're not gone," she said in a near whisper. "Our church was burned by the Ku Klux Klan in 1996. The police said it was electrical wiring, but surely it wasn't. The fire came at two o'clock in the morning. No one was there. How could it be electrical? It came out later that the Klan were involved, but that they hired other people to do it. One of the drivers taking out the fish truck saw them getting away."

"That's terrible—it must have been so demoralizing," I said. The act seemed so fiendish only platitudes came to mind. "Not at all," Mary said, and smiled. "Volunteers came from all over to help us rebuild. They stayed at my house for a long time. They did a great job. They were good people. I still hear from them."

It was, she said, the ninth Alabama church that year that had been either burned or vandalized. "There's this sense out there that [church burnings are] something that happened a long time ago, during the battles of the civil-rights era and even earlier," activist Tim McCarthy said in Harvard Magazine *in 2008. "It hasn't stopped. There are, on average, several dozen church burnings per year." A church burning tore the heart out of a community, because a church was a meeting place, a source of joy and welfare, of social events and counseling, of hope. A burned-out church was an act of violence that a Northerner could scarcely comprehend.*

—Condensed from* Deep South, *a new travelogue by Paul Theroux

MUSIC



TRACK 7

"Gone by the Dawn"

From Shannon and the Clams' *Gone by the Dawn*

HARDLY ART

Liner notes: Shannon Shaw channels teen-girl balladeers on this lament, though the topic—lovers parting in early morning—implies an adult perspective.

Behind the music: Singer-bassist Shaw is also a longtime member of Bay Area provocateurs Hunx and His Punx.

Check it out if you like: Retro-modernists Shilpa Ray and Sonny and the Sunsets.



TRACK 7

"If Death Ever Slept"

From Destruction Unit's *Negative Feedback Resistor*

SACRED BONES

Liner notes: Ryan Rousseau channels Johnny Rotten, delivering a thrilling fusion of punk and thrash metal.

Behind the music: An early lineup of the band included the late Memphis garage legend Jay Reatard.

Check it out if you like: Ty Segall, MC5, and Thee Oh Sees.



TRACK 4

"Sign Spinners"

From Natural Information Society and Bitchin Bajas' *Autoimaginary*

DRAG CITY

Liner notes: Spectral keyboards, hypnotic bass lines, and lighter-than-air percussion make for a spooky-fun instrumental.

Behind the music: Joshua Abrams launched Natural Information Society to showcase the guimbri, an African lute. Cooper Crain started Bitchin Bajas as a low-key alternative to his techno band Cave.

Check it out if you like: The Doors' "Riders on the Storm" (minus Jim Morrison). ***—Jon Young***

KNIEVEL: COURTESY HISTORY FILMS/GRAVITAS

The Comic Gene

How a seemingly ordinary high school teacher became a teen-lit superhero



ONE SUNNY MORNING after the kids had split for the summer, I sat down with Gene Luen Yang in an iMac-filled classroom at Bishop O'Dowd High School in Oakland, California, where he was training his replacement after 17 years as a computer science teacher. I was kind of surprised he had a day job. In 2006, Yang's *American Born Chinese* became the first graphic novel ever named a National Book Award finalist—it also won an Eisner (the Oscar of comics) and the prestigious Michael L. Printz Award, bestowed by the American Library Association on the best book for teens "based entirely on literary merit."

He repeated the feat in 2013 after landing on the bestseller lists for a matched pair called *Boxers* and *Saints*—character-driven takes on the Boxer Rebellion from opposing perspectives. Yang kept teaching, he told me, because (a) he likes kids—and has four of his own to support, and (b) "I was really worried that sitting at home by myself in front of a computer was going to make me crazy." Among his other notable extracurriculars are *Prime Baby* (a hilarious serial comic for the *New York Times Magazine*) and 2014's *The Shadow Hero*, wherein Yang and illustrator Sonny Liew revive the Green Turtle, a 1940s character they believe may have been the first Asian American superhero. Yang also writes the *Avatar: The Last Airbender* comic book series and recently signed with DC Comics to write *Superman*.

The latter, as it happens, was Yang's first comic book—purchased by his mom when he was in fifth grade. ("It was a trustworthy brand," he explains.) Who'd have guessed that the Man of Steel's fate would one day lie in the hands of a son of Chinese immigrants? Certainly not Yang, who (like his protagonist in *American Born Chinese*) struggled with his ethnicity after moving to a white suburb going into first grade. He endured teasing in elementary school, and later at his middle school, where a gang of kids ("the stoners") would yell racist taunts in the hallways. "I began to wonder if this group was voicing things that everybody thought, but they were the only ones brave enough to say it," Yang told me. "That's when I started to feel uncomfortable hanging out with non-Asian friends."

He also had a growing awareness of being part of a group that was all but invisible in American pop culture. Whenever an Asian actor came on TV, the Yang children would call in their parents to bear witness. Yang had a particular admiration for the *X-Men* character Jubilation Lee (a.k.a. Jubilee), who was not only Chinese American but confidently so—plus she was "best buddies with Wolverine and she could shoot fireworks out of her hands," he says.

Back in fifth grade, meanwhile, Yang and a pal had started brainstorming their own superhero stories. "I would do the pencils, he would do the inks, his mom would Xerox them, and we'd sell them at school." Their creation was Spade Hunter, a Robin Hood knockoff who wielded a discus instead of a bow and arrow. "Every superhero has a symbol, and we thought the spade would be a cool one," he explains, laughing at his cluelessness. "Later, I was informed by one of my African American friends that Spade Hunter could have racial implications."

That same year, he took a course in Logo, a coding language designed for the classroom. Using simple commands and programs, a kid could make a little turtle on the screen draw intricate designs. "I just found that amazingly powerful," Yang says. "That feeling propelled me all the way through getting a degree in computer science and even working in software engineering."

Art school was his first choice, but his parents weren't on board, so Yang pursued computer science at UC-Berkeley, with a minor in creative writing. For two years after college, he wrote code for a company called VideoSoft. "It was fun," he recalls. "We had a pinball machine, a fridge full of Coke—that kind of place. But I was pretty heavily involved in youth ministry at my church growing up, and working with teenagers always seemed really satisfying. Eventually I just couldn't imagine myself being in a cubicle for my entire career."

Yang's dad, a practical-minded electrical engineer, wasn't too happy about the change. "In my first years teaching, I used to get these envelopes from him with newspaper clippings—want ads from like Google or Apple, software companies, and articles comparing salaries for different professions," Yang says.

Tiger Dad can rest easy. His son's books are now the subject of scholarly articles and a staple in high school English and history classrooms. And Yang's latest project, *Secret Coders*, combines all three of his careers. In this serial collaboration with illustrator Mike Holmes, which launches in September, a girl arrives at a mysterious school and promptly alienates everybody before making a friend who helps her unravel the secrets of the place. The plot (which my 10-year-old declared "awesome") is a clever ploy to impart coding fundamentals, as inspired by that long-ago Logo class. Hey, once a teacher, always a teacher.
—Michael Mechanic



SELF-PORTRAIT: GENE LUEN YANG; SECRET CODER KIDS: MIKE HOLMES

[*continued from page 49*] economic environment and the state of its private sector."

Soon after that, the *New York Times* launched a two-month editorial series slugged "Cuba: A New Start." The weekly editorials were the work of Ernesto Londoño, who talked to administration officials, Leahy's office, and the Trimpa Group. "There was really no collusion or formal cooperation in what they were doing and what we were doing," he told Terry Gross on *Fresh Air*. The *Times* simply saw an opportunity to push the policy it advocated forward. "We figured it was worthwhile to give it a shot."

All these forces, in other words, were marshaled to push Obama through a door whose threshold he had already crossed.

★DIVINE INTERVENTION★

And let's not forget the pope.

Even as the secret negotiations continued, members of Congress kept looking for allies to press Obama on Cuba, and provide him cover from attacks from the right. In a September 2013 meeting at Rice's office, Durbin floated a new idea: What about getting the new pope involved? As the first pontiff from Latin America, Francis knew Cuba well. After accompanying Pope John Paul II on his 1998 visit to the island, Francis–then the assistant archbishop of Buenos Aires–had written a short book about the trip, *Dialogues Between John Paul II and Fidel Castro*. And the Vatican had credibility with Havana because of its consistent opposition to the embargo.

All parties saw the wisdom of divine intervention. Leahy sent a confidential message to Cuban Cardinal Jaime Ortega, asking him to encourage the pope to help resolve the prisoner issue. Drawing on the close ties between Obama's chief of staff, Denis McDonough, and Cardinal Theodore McCarrick of Washington, the White House also "got word to the Vatican that the president was eager to discuss this" at an upcoming meeting in March with the pope in Rome, according to Craig. And at a strategy meeting of the Cuba advocacy groups, Tim Phillips of the peace group Beyond Conflict suggested approaching Cardinal Seán O'Malley of Boston. "We knew that O'Malley was very close to the pope," recalled Craig, who had ties to the Catholic Church hierarchy in Boston from his days as a foreign policy aide to Sen. Ted Kennedy. "O'Malley had spent time in Latin America, spoke Spanish fluently, had known the pope before he became pope, and had a relationship with the pope that was unusual, certainly much, *much* better than McCarrick's."

In early March 2014, a small group of Cuba policy advocates, including representatives of the Trimpa Group, Phillips, and Craig, met with Cardinal O'Malley in the rectory of the Cathedral of the Holy Cross in Boston. "We explained the recent trends, the conversations with POTUS and others in the administration and Congress," Phillips recalls, "and indicated this was a historic moment, and a message from the pope to POTUS would be significant in moving the process forward." Craig brought a letter from Leahy urging the cardinal to focus the pope's attention on the "humanitarian issue" of the prisoner exchange. Leahy personally delivered a similar message to Cardinal McCarrick, and arranged for yet another to be sent to Cardinal Ortega in Havana. There now were three cardinals urging the

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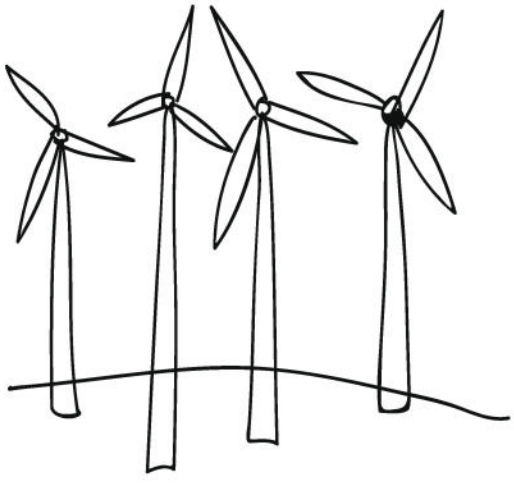
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pope–as yet unaware of the secret dialogue between Washington and Havana–to put Cuba on the agenda with Obama.

Three weeks later, Obama met the pope in his private library, a marble-floored chamber overlooking St. Peter's Square. There, they spoke for an hour under a frieze of Renaissance frescoes. Obama "told the pope that we had something going with Cuba and said it would be useful if he could play a role," according to a White House official familiar with the meeting. A few days later, Francis summoned Ortega to enlist his help.

Over the summer, the pope wrote forceful, confidential letters to Obama and Raúl Castro, imploring the two leaders "to resolve humanitarian questions of common interest, including the situation of certain prisoners, in order to initiate a new phase in relations." To safeguard his communications, the pope sent both letters via papal courier to Havana–with instructions to Cardinal Ortega to personally deliver the message into the president's hands. Ortega then sent his top aide to Washington to advance his clandestine diplomatic mission. But arranging a secret face-to-face meeting with the president of the United States was easier said than done. Alerted to the problem, Cardinal McCarrick volunteered to be an interlocutor; he traveled to Havana, met with Ortega, and offered to carry the pontiff's letter back to the White House. But Ortega stuck to his papal instructions; he had to deliver the letter himself. So McCarrick contacted chief of staff McDonough, who arranged for Ortega to travel to Washington and meet secretly with the president. (To make sure the meeting did not leak, US officials kept Ortega's name off White House visitor logs.) During a brief encounter on the patio adjacent to the Rose Garden, Ortega handed Obama the pope's sensitive communication, in which he offered "to help in any way."

It was a convoluted process, but an unprecedented gesture. "We haven't received communications like this from the pope that I'm aware of other than this instance," a senior US official recalls. "And that gave, I think, greater impetus and momentum for us to move forward."

★OPEN TO CHANGE?★

By late October, the pope had invited the negotiators to Rome. "It was less a matter of breaking some substantive logjam but more the confidence of having an external party we could rely on," says a senior US official.

It was at the Vatican that the two sides hammered out their final agreement on the prisoner exchange and restoring diplomatic relations. Rhodes and Zuniga also noted Obama's intention to ease regulations on travel and trade, and to allow US telecom companies to help Cuban state enterprises expand internet access. They acknowledged these initiatives were aimed at fostering greater openness in Cuba, though they delivered this message respectfully. Cuban officials said that while they had no intention of changing their political system to suit the United States, they had reviewed the Americans' list of prisoners jailed for political activities and would release 53 of them as a goodwill gesture. The pope agreed to act as guarantor of the final accord.

Obama's National Security Council met on November 6 to sign off on the details. Later that month, the negotiating teams convened one last time in Canada to arrange the logistics of the prisoner exchange.

On December 12, Zuniga called Alan Gross' wife, Judy, to the Executive Office Building to tell her the good news. Four days later, on the eve of Hanukkah, Scott Gilbert called his client to tell him he'd soon be a free man. "I'll believe it when I see it," Gross replied.

He didn't have to wait long: Early the next morning Gross was taken from his prison cell in Havana to a small military airport, where he was met by his wife, his attorney, and members of Congress who had worked to win his release. The prisoner exchange was choreographed so carefully that the blue and white presidential plane sent to bring Gross home was not cleared to depart Havana until the plane carrying the three Cuban spies touched down on a nearby runway.

Once in the air, Gross was given some of his favorite foods–popcorn and corned beef on rye–and took a call from Obama. After clearing Cuban airspace, he called his daughters to tell them simply, "I'm free."

At noon, Obama announced the deal with Cuba to the nation: "We will end an outdated approach that, for decades, has failed to advance our interests…Neither the American nor Cuban people are well served by a rigid policy that is rooted in events that took place before most of us were born." Raúl Castro was more restrained, focusing on the return of the three Cuban "heroes." Normalization of diplomatic relations received just a single sentence, followed immediately by a reminder that the embargo –"the heart of the matter"–remained in place.

Obama called on Congress to rescind the embargo–a policy, as he said, "long past its expiration date." But with Republican majorities in both houses and a presidential election in the offing, getting Congress to end the sanctions looks to be a lot harder than reaching an agreement with Havana. Sen. Marco Rubio (R-Fla.), who has led the Republican tirades against the deal, says the president gave the Cuban government "everything it asked for" and got nothing in return. "I am committed to unravel as many of these changes as possible," he added.

While Rubio and the rest of the old-guard anti-Cuba lobby fume, the process of normalization is moving forward. Obama officially removed Cuba from the State Department's list of state sponsors of terrorism, and US and Cuban flags fly over the newly reestablished embassies in Havana and Washington.

But maybe the most symbolic moment came at the Seventh Summit of the Americas in April, when Obama and Castro met privately in person for the first time and reaffirmed their commitment to normalize relations. Although Castro prefaced his speech before the assembly with a 50-minute litany of US transgressions against Cuba, at the end his tone changed to conciliation and even warmth. "I have told President Obama that I get very emotional talking about the revolution. I apologize to him because President Obama had no responsibility for this," Castro said, noting that nine other US presidents could have reached out to Cuba and didn't. "In my opinion, President Obama is an honest man. I have read his autobiographies…and I admire him and his life and think his behavior comes from his humble background. There, I said it."

Obama chose not to revisit old bitterness: "America never makes a claim about being perfect. We do make a claim about being open to change…The United States will not be imprisoned by the past. We're looking to the future." ■

This article is adapted from the new, updated edition of the authors' book, Back Channel to Cuba: The Hidden History of Negotiations Between Washington and Havana, *to be published in October,* *©2015 University of North Carolina Press.*

Smart People? Smarter Animals



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"sorry, I'm not taking this test"

[*continued from page 43*] and studies and, with McKamey's encouragement, had interviewed her neighbors and added her own point of view. She didn't like how the local paper described her stepfather as a "flashy" man who had recently purchased a piece of new jewelry—implying, it seemed to her, that greed might have been the reason he'd been shot.

Ajanee wanted her readers to understand that her stepdad was a dedicated father of four who was home with his seven-year-old nephew when he was killed. The violence didn't just affect the victims; it scarred the survivors, Ajanee wrote. "Personal, private, solitary pain is more terrifying than what anyone can inflict. The violence stays with families and becomes a part of their lives. Nobody feels the same and family relationships get strained." She also added a section on the history of slavery and Jim Crow, writing, "The epidemic of African Americans killing each other didn't start because we just hate each other. It started when we began to believe the things other races said about us and began to hate ourselves."

"When you go to school, you learn about math and reading, but you rarely learn new ways of looking and thinking about life," Ajanee explained. "Learning the skills to research and write this paper helped me learn so much: how many people are dying, why they are dying, how to tell the stories of others and learn about the world. It gave me a better understanding."

She got an A- for the paper. "When they told me the grade, I thought it must have been a mistake," she says—she'd read her classmates' drafts and didn't think hers measured up. "Before this, the longest paper I wrote was three pages. Now, if I have to write 15 pages in college next year, I feel ready," she told me. (That was in 2013. This year, after two years in community college, Ajanee transferred to Jackson State University in Mississippi.)

But as politicians, economists, and philanthropists focus on ever more sophisticated number crunching, opportunities for teachers to nurture students' intellect the way McKamey does have grown more limited. Mission High teachers never complained to me about being overworked, but they worked more hours than anyone I met in the corporate world. For more than a decade, McKamey woke up at 5 a.m., got to school by 6:30, left for dance class at 4:30 p.m., and then worked almost every evening and every Sunday. Most teachers I met worked with students after school and colleagues on weekends, without pay.

And yet the story of Mission High holds out hope for a different kind of school reform—one that builds on resources that already exist in thousands of schools and doesn't require spending a dime on the next generation of tests, software, or teacher evaluation forms. That's because Mission has already been through exactly the kind of harsh treatment for "failing" schools that the standardized-testing movement supports—and then it found another way.

In the mid-1990s, Mission had rock-bottom test scores and was targeted by the district for "reconstitution." The principal was removed and half the teachers were reassigned. Yet in 2001, the school once again had some of the lowest test scores and attendance rates among all of San Francisco's high schools, and more teachers were leaving it than almost any other school in the district.

Then Mission High tried something new. Instead of bringing in consultants, it mobilized a small group of teachers—including McKamey—to lead reforms on their own. It increased paid time for them to plan lessons together, design assessments, and analyze outcomes. The teachers made videos of students talking about what kind of instruction helped them succeed. They read research about how integrated classes, personalized teaching, and culturally relevant curriculum increased achievement. They asked successful teachers to coach colleagues who needed help.

To focus their efforts and keep each other accountable, McKamey and her colleagues regularly pore over data, both qualitative and quantitative. They look at achievement gaps, attendance, referrals, graduation rates, and test scores. They also walk through classrooms, delve into student work, and interview teachers and students. "We are always looking at and trying to understand different kinds of data, including anecdotal," McKamey told me. "Then we can settle on something we need to concentrate on each year." One year, social studies teachers discovered that too many students didn't fully grasp the difference between summarizing a text versus analyzing it, so they spent the next year building more opportunities to

practice those skills. The math department, meanwhile, focused on one-on-one coaching to help set up effective group work.

By contrast, back in Florida, Katz told me that the typical way he receives professional development entails an observation of a model lesson by a district consultant demonstrating how to teach Common Core standards. While University High struggles to keep teachers, Mission High has very low attrition. It is no longer considered a "hard-to-staff" school by the district. "Mission High is famous at the district because it is known as a learning community and a good, supportive place to work," Soares told me. "It's hard to get a job here."

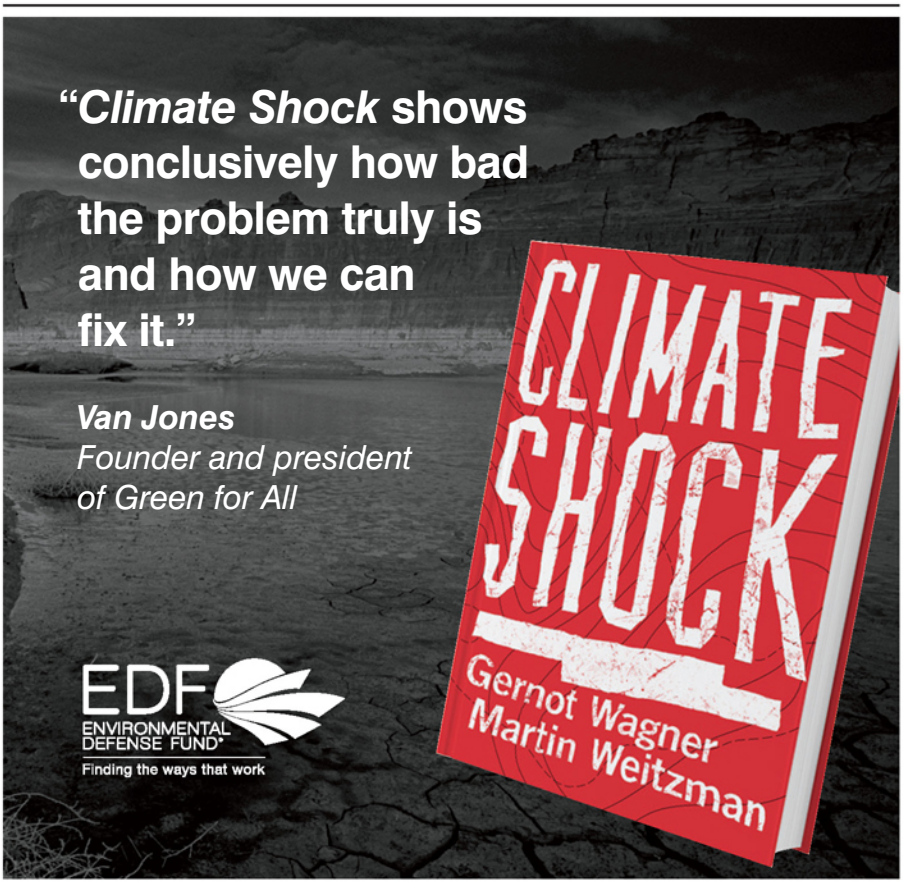
The school does well on a bevy of other metrics, as well. The graduation rate went from among the lowest in the district, at 60 percent, to 82 percent; the graduation rate for African American students was 20 percent higher than the district average that year. Even though close to 40 percent of students are English learners and 75 percent are poor, college enrollment rose from 55 percent in 2007 to 74 percent by 2013. Suspensions plummeted, and in the annual student and parent satisfaction survey from 2013, close to 90 percent said they liked the school and would recommend it to others.

That doesn't mean there aren't challenges. Standardized test scores went up 86 points, to 641 (out of 1,000) in 2012, but that was still far from California's target for all schools of 800. The numbers of African American and Latino students in AP math and science classes don't fully mirror the student body, and their passing rates on the California high school exit exam went down in 2013 and 2014. The work continues, but so does the commitment of teachers to keep at it. "No one here does 7:45 to 3:10 and then calls it quits," science teacher Becky Fulop, who has worked at Mission High for more than a decade, told me. "That by itself doesn't necessarily make teachers effective, but the dedication here is extraordinarily high."

Nationally, there are thousands of struggling schools like Mission where teachers are engaged in similar hard, messy, and slow work. What if instead of spending more money on new rounds of tests, we focused on their ability to learn and lead on the job?

No country has ever turned around its





educational achievement by increasing standardized tests, according to research conducted by Lant Pritchett at the Center for Global Development. The best systems, it turns out, invest in supporting accountability at the school level–like those teacher meetings at Mission High.

"IT'S ALWAYS AN ATTEMPT to hijack the effort by the teacher to think about education," McKamey told me one morning as we talked about the dozens of reform efforts she's seen come and go in 27 years of working in inner-city schools. The only thing none of the politicians, consultants, and philanthropists who came in to fix education ever tried, she said, was a systemic commitment to support teachers as leaders in closing the achievement gap, one classroom at a time.

"Let me remind you what analysis is," she said a few hours later, standing in the middle of her class with those black leather loafers from under her desk. "When I was little, I used a hammer and screwdriver to crack a golf ball open. As I cracked that glossy plastic open, I saw rubber bands. And I went, 'Ha! I didn't know there were rubber bands in golf balls. I wonder what's inside other balls?' It made me curious about the world. So we are doing the same thing. We'll analyze the author's words to dig in deeper."

The 25 seniors had just finished reading a chapter from *The Things They Carried* titled "The Man I Killed." When they were done, McKamey asked them to pick out a quote they found intriguing.

David, a shy, reflective teenager whose face lit up when the class read poetry, raised his hand:

"He was a slim, dead, almost dainty young man of about twenty. He lay with one leg bent beneath him, his jaw in his throat, his face neither expressive nor inexpressive. One eye was shut. The other was a star-shaped hole."

"What do you notice in this passage?" McKamey probed.

"The man the narrator killed is the same age as him," Roberto commented.

"Exactly," she replied. "Now you are one step deeper. What do I feel inside when I think of that?"

"Guilt, regret," Ajanee jumped in.

"That's right," McKamey commented. "I personally would use the word *compassion*. But what you said is 100 percent correct. And what does that do when we realize that this man is the same age as us?"

"It makes me think that he's young, likes girls, probably doesn't want to fight in a war," Roberto said.

"Exactly. Now take that even deeper."

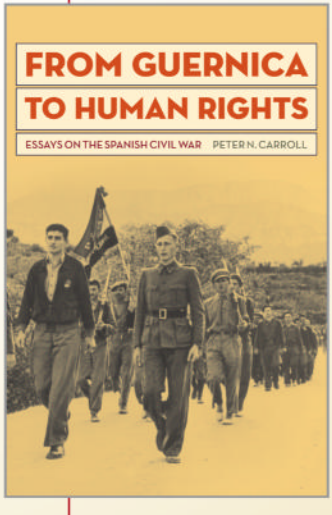
"It's like he is killing himself?" Roberto said more hesitantly, glancing at her for affirmation.

"Perfect! Now you made a connection," McKamey said, excitement in her voice. "That's what this quote is really about. Now, why is O'Brien saying 'star-shaped hole'? Why not 'peanut-shaped' hole?"

Ajanee raised her hand. "The image in his mind is burned."

"Exactly!" McKamey replied. "O'Brien wants us to keep that same image in mind that he had as a young soldier in *his* mind. It's the kind of image you never forget." ■

Support for this story was provided by the Equity Reporting Project.



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[*continued from page 36*] providers and made them victims of sustained violence. Protesters chained themselves to the front doors of clinics, a radical tactic that turned public opinion in clinics' favor. Doctors feared for their lives. Some were maimed or murdered.

Today, clinics are more preoccupied with what Joffe calls state-sanctioned harassment. "In some ways, this is worse," she says. "TV stations don't go to a clinic to cover the fact that you can no longer give a patient a heating pad. Admitting privileges? Well, that sounds reasonable. Why are these pro-choice fanatics making such a fuss? It's not policemen coming to get the protesters off your back anymore. It's inspectors coming to shut you down."

The effects on staff morale can be corrosive. In Michigan, a new law requires a woman to print and read anti-abortion literature 24 hours before her abortion. When she prints the documents, they bear a time stamp. At least once a week, a woman appears at the clinic who read the documents the day before but couldn't print them until the morning of her procedure (poor women, especially, suffer because they use their phones as computers). Chelian's staff has to turn the women away, and the women become furious–at them.

"The staff went into the work to be advocates and feminists and supporters of women–and we're the people who inform the woman about the law," Miller says. The patients' experience "is one of oppression. And the very woman we're there to help sees us as the enforcer."

The struggle just to stay open is all-consuming. In Texas, the rules, protocols, and requirements for Miller's entire staff change every two years, she says. Administrative workers must record the same data in twice as many logs. They prepare multiple records fearing still more inspectors.

"We dance faster, and we bend over, and we comply, comply, comply, until we pick up our head and say, 'What are we doing here?'" Miller said. "I'm trying so hard to keep the doors open, but for who?" The rules change so frequently that even if her lawsuit against the Texas law succeeds, Miller is not sure if she would ever open a new clinic in Texas.

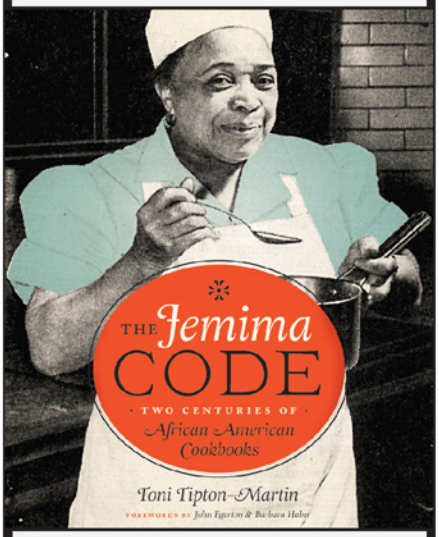
But she acknowledges that the need is desperate. One of the women I met in the Las Cruces waiting room, Suhey, an 18-year-old from El Paso, said she had already tried to give herself an abortion with Mifeprex a friend bought in Ciudad Juárez. (It didn't work.) Suhey already has a daughter–the lock screen on her phone shows the two of them snuggling–and is caring for her 16-year-old sister. She can't afford another child.

Researchers are investigating whether self-abortion attempts are on the rise. Chelian doesn't need convincing. Recently, a woman came to her clinic who tried to pierce her cervix with a drinking straw.

It frightens Chelian that with every passing year there are fewer women like her who can recall what abortion was like before it was legal. "What they don't know anymore, what's gotten lost in the history, is how many women died trying to give themselves abortions," Chelian said. Some time ago, Chelian asked a class of college freshmen what they would do if restrictions kept them from getting abortions. "We'd use a coat hanger," one young woman replied. "Like our grandmothers did." ■



"I feel lucky to have this book on my shelf."
—Tamar Adler, *New York Times Magazine*

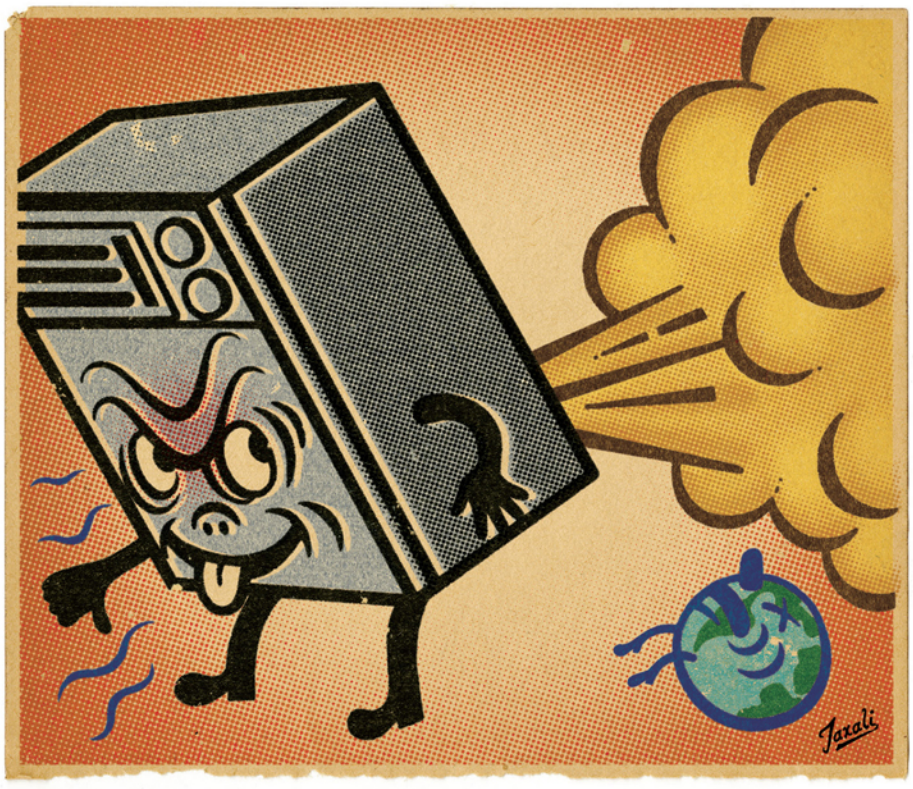


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Chilling Effect

How air conditioning is making us hotter

BY MADDIE OATMAN

In India, the hot new thing is cold air. In late April, the Indian subsidiary of the Japanese air conditioning manufacturer Daikin Industries announced plans to open its second plant in the subcontinent, double production, and expand its existing stock of 200 showrooms to 350 by the end of 2015. India isn't the only place where AC is all the rage. As climate change nudges global temperatures upward, incomes are also rising, meaning millions more people can afford to beat the heat. Sales of home and commercial air conditioners have doubled in China over the past five years, with 64 million units sold in 2013 alone.

But the nation with the most air conditioning isn't India, nor in the sweltering tropics–it's the United States. Over the past 80 years, hordes of Americans migrated south and west to cities like Miami and Phoenix, where AC made broiling conditions bearable; in turn, the growth of these Sun Belt communities ratcheted up the demand for cooling. These days, almost 90 percent of American households have air conditioning. We spend $11 billion on cooling each year and release roughly 100 million tons of carbon dioxide in the process–the same as 19 million cars.

By contrast, in Mexico, only 13 percent of households have AC. But in a recent study, Lucas Davis, an associate professor at the University of California-Berkeley's Haas School of Business, predicts that the country's rising per capita income will mean more than two-thirds of Mexican

homes will have it by 2100–creating annual emissions equivalent to 4.4 million new cars. Across the globe, Davis predicts, demand for cooling will put more strain on electrical grids, causing shortages and price spikes along with more pollution. In the United States, power companies fire up "peaker plants" to create extra electricity on hot summer days. And these plants are often dirtier than the usual facilities, leading to a vicious cycle: More emissions means more global warming, which means more appetite for cooling. One 2009 study predicted that by 2100, heating and cooling will account for 12 percent of global carbon emissions–but because of climate change, demand for heating will have shrunk by 34 percent, while demand for cooling will have grown by 72 percent. More energy-efficient equipment can mitigate some of that, but experts estimate these gains will be more than offset by the overall increase in air conditioning.

WASTE HEAT FROM AIR CONDITIONERS CAN ACTUALLY RAISE THE OUTDOOR TEMPERATURE—THUS CREATING EVEN MORE DEMAND FOR AIR CONDITIONING.

Still, it's unrealistic–and unfair–to demand that the world's rising economies forsake a luxury the more affluent have enjoyed for decades. Not to mention that during heat waves, lack of air conditioning can kill, with the greatest danger among the elderly, poor, and people of color: A 2013 UC-Berkeley study found that in the United States, Hispanics were 21 percent more likely and African Americans 52 percent more likely than their white counterparts to live in heat islands–urban neighborhoods where, because of abundant concrete and few trees, temperatures soar.

So what could help keep us cool without further heating the globe? Better design, for starters: For thousands of years, the world's tropical and desert areas have used passive cooling systems–simple architectural tweaks that minimize a structure's exposure to heat. Light-colored houses with reflective roofs were the mainstay of South Florida architecture before centralized cooling came along, and these "cool roofs" are back in style: Guidelines for new construction in California, Florida, and Georgia urge commercial buildings to adopt this feature, which studies show can decrease air conditioning bills by 20 percent on average. Sacramento, California, requires that planted foliage shade at least 50 percent of any new parking lot, since surfaces protected by a tree's canopy transmit less heat. The Japanese cities of Tokyo and Osaka, meanwhile, are testing water-retentive pavements, which absorb and then evaporate moisture to cool the streets.

Design tricks can help at home too. One easy way to reduce your AC use–and your electric bill–is to make sure your house is well insulated and sealed, as seepage accounts for about 30 percent of your cooling system's energy consumption. And if you set your thermostat to 78 degrees instead of 72, you'll save around $100 a summer. Ceiling fans cost as little as 30 cents a month when used eight hours a day, while swamp coolers–which cool the air by drawing it over water–are far more energy efficient in dry climates than traditional air conditioners. And with these tools, you can keep your neighbors more comfortable, as well. Researchers from Arizona State University revealed in a 2014 study that waste heat from air conditioning increased the outside temperature of some areas of Phoenix by nearly 2 degrees Fahrenheit, leading to–you guessed it–yet more demand for AC. How's that for a burn? ■

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FOOD FOR THOUGHT

Come at King Corn

Can a lawsuit stop Big Ag from dumping fertilizer into drinking water?

BY TOM PHILPOTT

Corn is to Iowa what oil is to Texas–so it's not every day that an Iowa official takes on the state's biggest industry. But Bill Stowe, CEO and general manager of Des Moines Water Works, has had it with Big Ag. It "rules the roost in this world," he says. "It's a nasty business."

Stowe isn't just talking smack: Last March, in an unprecedented move, Des Moines Water Works filed a lawsuit in federal court against three upstream counties, charging that they violate the federal Clean Water Act by allowing fertilizer to flow into one of the rivers from which the city gets its drinking water. The suit will likely drag out for years, says Neil Hamilton, director of Drake University's Agricultural Law Center. But if it succeeds, it will not only force farmers upstream from Des Moines to limit their fertilizer runoff; it could also herald a new era for the Clean Water Act, the '70s-era legislation that severely limited pollution from heavy industry but left farms essentially unregulated.

Not everyone is so keen on the changes that the lawsuit could bring about. Six-term Republican Gov. Terry Branstad, famously aligned with agribusiness, is fuming. "Des Moines has declared war on rural Iowa," he snarled at a January press conference. And in May, a group affiliated with the Iowa Farm Bureau called Iowa Partnership for Clean Water began running TV ads praising farmers for their water stewardship and claiming the suit "threatens our land, home, and even your food."

But Des Moines Water Works argues that the real threat to land and food is the chemical that farms are releasing: nitrate. Corn, which uses more nitrogen fertilizer than any other US crop, blankets about 40 percent of Iowa's landscape. Much of the harvest is fed to the state's 21 million hogs–nearly a third of the entire US herd–whose nitrogen-rich manure is collected in huge lagoons. Nitrates leaching from fields and lagoons wind up in the rivers that supply more than a half million Des Moines-area residents with water. That's a problem, because nitrate-laced water has been linked to a range of health problems, including birth defects, blood problems in babies, and cancers of the ovaries and thyroid. Yet nitrogen fertilizer runoff is completely unregulated, in Iowa and most other states.

That leaves cities to cope with the fallout. About 20 years ago, Stowe says, Des Moines Water Works found its water often had nitrate levels above the Environmental Protection Agency's limit of 10 parts per million. So the agency built what Stowe says is the globe's largest nitrate-filtration facility. The cost of operating it runs between $4,000 and $7,000 per day–a burden passed on to the city's residents via water bills.



And the burden has been growing. In 2013, in part because of an unusually wet spring followed by a drought, river nitrate levels surpassed 24 ppm, the highest ever recorded. Des Moines had to run its nitrogen-removal plant for 74 days that year, to the tune of more than $500,000. In 2015, nitrate levels have soared again; at press, the utility company had run the plant for 150 days. What's more, the nitrate-removal facility is nearing the end of its life, and replacing it will cost Des Moines up to $185 million, says Stowe.

That's where the utility's lawsuit comes in: If successful, it could force upstream farms to cut back on runoff. Sarah Carlson of the environmental advocacy group Practical Farmers of Iowa says that if farmers planted cover crops–which suck up and sequester nitrogen after the harvest, keeping it out of water–on 60 percent of the region involved in the lawsuit, it would drastically reduce fertilizer runoff within four years, solving the problem. "Farmers are worried that they're going to be regulated, and that this is a sign of regulations to come"–fear that is already contributing to a growing interest in cover crops, she adds.

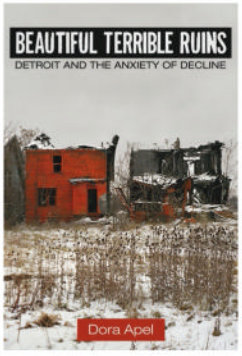
It's not just Des Moines residents and their angry water chief who stand to benefit from change spurred by the suit. The thousands of pounds of nitrates the plant filters out are dumped back into the rivers downstream, to flow on to other cities. A 2009 University of Iowa survey of nearly 500 private drinking wells found nitrates at or above the 10 ppm limit in 12 percent of them. And once they leave Iowa, most of these nitrates also travel down the Mississippi to the Gulf of Mexico, where they help create a dead zone that can be as large as the state of New Hampshire. Meanwhile, public officials in other parts of the Corn Belt–including those in Columbus, Ohio, who warned that pregnant women and infants shouldn't drink tap water after nitrate levels spiked above federal standards in June–are watching the Iowa suit closely.

Now that Des Moines Water Works has broken the taboo of challenging corn growers on their own turf, other municipalities and citizen groups may be emboldened. Hamilton of Drake University says that the suit "has already inspired a more urgent discussion about protecting soil and water" in Iowa and beyond. If it succeeds, he says, it will "no doubt inspire other jurisdictions [to] look for similarly creative ways" to apply the Clean Water Act. ■

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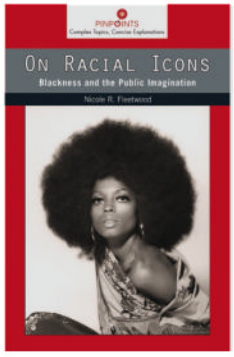
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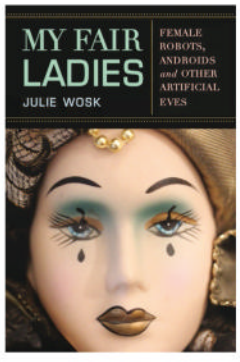
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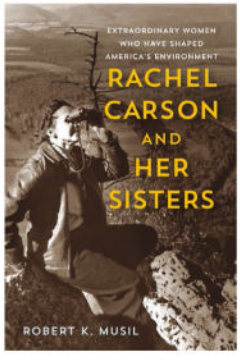
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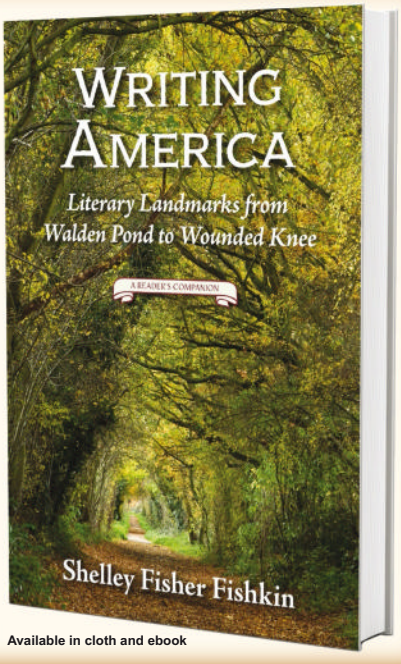
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